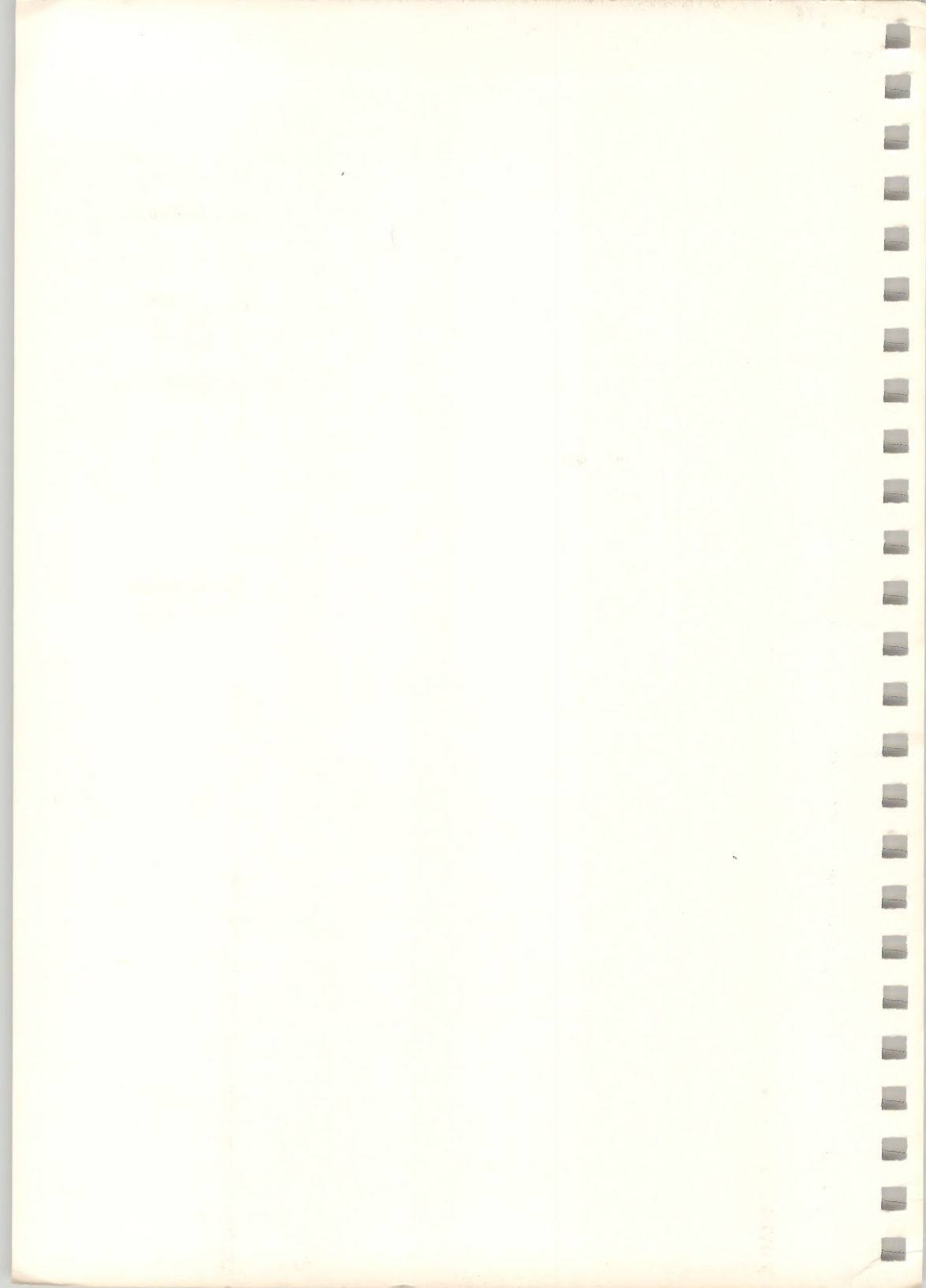


Quidnunc

STALK **THE** **MARKET**

Stock Charting and Analysis
Software
for the Atari ST Computers

Quidnunc Software



Quidnunc Software

STALK THE MARKET

Stock Charting and Analysis Software

for the Atari ST Computers

Quintana Software

STALK THE MARKET

Stock Charting and Analysis Software

for the Atari ST Computer

Stalk the Market User's Guide

Stock Charting and Analysis Software for the Atari ST Computers

**Quidnunc Software
Suite 175
P.O. Box 819081
Dallas, Texas 75381-9081**

(214) 243-0663

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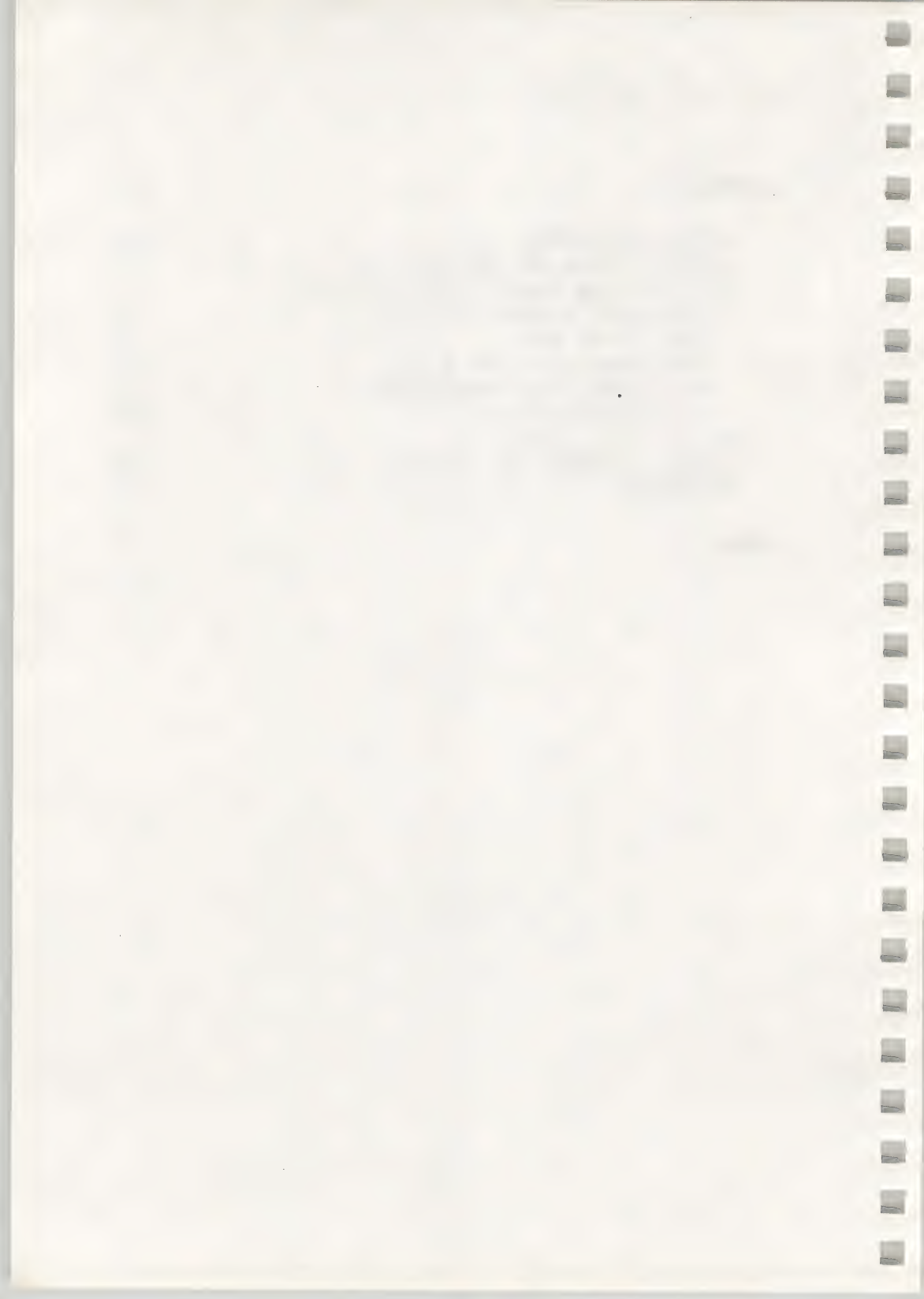
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INTRODUCTION

WHAT IS STALK THE MARKET?

Stalk the Market is a computerized tool for exploring the fascinating world of stock transaction timing. *Transaction timing*, in turn, generally refers to any technique used to determine when stock (or other financial commodities; bonds, mutual funds, hogs, etc.) should be bought and sold to maximize financial gain.

The old adage, "Buy Low, Sell High," is the key: *Stalk the Market* provides you with some methods for actually determining when high is high and low is low. These methods are based on the premise that, in time, stock prices fluctuate in some cyclical fashion. By providing some ways to determine what these cycles are and when they go through minima (time to buy!) or maxima (sell!) *Stalk the Market* may be able to improve your profits from playing the stock market -- be it hypothetical experimentation or the real thing!

To make this process easy for you, *Stalk the Market* provides an integrated package of customized graphics, data bases, and spreadsheets tailored for manipulating stock time/price data. In addition, *Stalk the Market* provides several ways for importing and exporting stock data including direct downloading from *Dow Jones News/Retrieval* and Data Interchange Format (DIF) conversions. Scan the *Table of Contents* to get a flavor of the capabilities of *Stalk the Market*. Better yet, try it out!!

HOW TO USE THIS MANUAL

First of all, read this section! If you can't wait to try out the program and you are already familiar with your Atari ST and conventional GEM operations (menus and window manipulation, dragging the mouse, dialog boxes, etc.), then skip ahead to *A Quick Sneak Preview of Stalk the Market* at the end of this section.

If you are less familiar with your computer or you are the conservative type, continue reading through this section. You will be instructed on how to get the program loaded and running, some of the basic GEM operations, and some of the terminology used in this manual. This will prepare you for the *Sneak Preview*.

The *Reference* chapter of this manual takes you, menu item by menu item, dialog box button by dialog box button, through all the features of *Stalk the Market*. The *Basic Operations* section can serve as a quick tutorial on getting some data displayed and moving it around on the screen.

The *Using Stalk the Market* chapter describes some common techniques for analyzing stock time/price data available within *Stalk the Market*. Specific mechanics for using these techniques are not described in detail but the *Reference* chapter is frequently cited.

Various file conversion, editing, and creation functions are described in the *File Maintenance* section. Since you will probably want to work with more than just the data provided with this program (which happens to be Atari's stock history, from its first public issue to the release date of *Stalk the Market*), the *Downloading* section should be of particular interest.

Finally, some references to books on the subjects of financial transaction timing and time series analysis are included in *Appendix B*.

WHAT YOU DON'T GET WITH STALK THE MARKET

(Partial List)

A GUARANTEE OF FINANCIAL SUCCESS

You can have lots of fun "playing around" with transaction timing, but its success in providing profits is dependent on the actual cyclic behavior (if any!) of the stock of interest and your skill in using the tools provided within *Stalk the Market*. You will rapidly find that the stockbroker's commission can have a significant effect on actual profits realized. You may make a profit or lose your shirt, but the stockbroker will always get his/her commission. *Stalk the Market* watches the broker's take closely but it doesn't get that money back for you.

**AN INTEGRATED STOCK PORTFOLIO
MANAGEMENT PACKAGE**

Stalk the Market provides detailed transaction "accounting" for individual stocks, but it does not supervise your whole portfolio. Each stock is treated independently of all others.

COMPLEX TRANSACTION CAPABILITIES

Stalk the Market is designed specifically for handling simple buy and sell transactions on standard common stocks. The adventurous may find ways of using *Stalk the Market* for other types of transactions but these techniques are not described in this manual.

A SUBSCRIPTION TO DOW JONES NEWS/RETRIEVAL

Stalk the Market provides a very easy way for you to download historical stock data from *Dow Jones News/Retrieval*. To take advantage of this powerful feature, you need to subscribe to this telecommunications news service. The brochure included with this software provides a very attractive introductory subscription offer to *Dow Jones News/Retrieval*. *Stalk the Market* does not support direct

downloading of data in other formats (such as *Compu-Serve*). Data from these sources may, of course, be downloaded using your favorite communications program and then entered into *Stalk the Market* manually. This is tedious. Subscribing to DJN/R is highly recommended.

A PROGRAM THAT WORKS IN LOW RESOLUTION

Stalk the Market will run properly using either a color monitor in medium resolution or a monochrome monitor (in high resolution). The colors available using the former are often useful for distinguishing various graphics features, but the higher resolution of the latter provides sharper graphics.

RECOMMENDED SYSTEM CONFIGURATION

ATARI 520ST, 1040ST, OR MEGA COMPUTER WITH AT LEAST ONE MEGABYTE OF RAM

Stalk the Market is a large program. The program and its resource file require nearly 270K of RAM. With 512K of memory you *may* be able to run the program but you will be limited to only one set of stock data at a time (you also might have to remove some installed desk accessories) and some features may not be accessible. With at least one megabyte of RAM a full complement of four sets of stock data can be manipulated simultaneously with room left over for desk accessories, print spoolers and the like. At least one megabyte of memory is highly recommended.

A PRINTER

Not absolutely necessary, but recommended for hard copy printouts. If you don't have a printer (or even if you do) *Stalk the Market* allows print operations to be directed to a disk file. That file can then be reviewed using your favorite text editor (or the GEM **Show** command). *Stalk the Market* does not use any special printer control codes so no special printer driver is necessary. However, if you want a hard copy of the screen display, your printer must support GEM's <Alternate-Help> print screen command.

A MODEM

Again, not absolutely necessary, but you will get tired of entering stock time/price data by hand if you are without one. The automatic downloading feature of *Stalk the Market* requires a Hayes-compatible modem.

HARD DISK OR FLOPPY DISK?

Stalk the Market runs very nicely (read that *fast*) from a hard disk. It also runs nicely from the ST's floppy disk drive, either single-sided or double-sided. Of course, the larger the capacity of the disk drive, the more stock information you will be able to store. A double-sided floppy can hold data for over 100 separate stocks.

TERMS AND DEFINITIONS

A few of the essential terms will be defined here. Other terms are defined as they are used in the *Reference* section (also, see the *Index*).

GEM OPERATIONS AND OBJECTS

These functions and items are described in more detail in your *Atari ST Owner's Manual*.

♦ Click on...

Use the mouse to move the cursor over a particular item on the screen (usually a menu item, dialog box button, or window control bars and boxes) and press one of the mouse buttons while over that object. Depending on the actual operation, nothing may happen until you release the mouse button. The left mouse button is used for most, but not all, operations.

♦ Double click

This is a rapid "click-click" using one of the mouse buttons. If you haven't used your ST much, you probably will have to practice to get the timing between the clicks just right. This timing is adjustable from the Control Panel.

♦ Drag...

Click on some object and, *while holding the mouse button down*, use the mouse to move the cursor to some other location on the screen. This operation is often used to move objects around or to define a rectangle using the "rubberband."

♦ Window

This is a portion of the screen used by *Stalk the Market* to display stock time/price data. The display can be manipulated using the various window control points (described in the *Reference* section).

♦ Dialog Box

An object on the desktop used for interaction with *Stalk the Market*. Common elements are editable and non-editable text fields and selectable buttons.

♦ Menu

The text items across the top of the display are the menu titles. When you move the cursor over one of these items, a menu drops down revealing a number of selectable options. Moving the cursor over one of these items highlights it. Clicking on a highlighted item causes that operation to be performed. Certain items may be lightly shaded and, if so, are not selectable. In *Stalk the Market* menu selections are enabled only when no dialog boxes are displayed. Unlike other familiar GEM applications, *Stalk the Market* uses unique two-tiered drop-down menus for the **Analyze** functions.

♦ Quick Keys

These are keystroke alternatives to mouse operations. The main menu *Quick Keys* are included in the *Reference* chapter. All the *Quick Keys* are summarized in *Appendix A*.

FINANCIAL TRANSACTION TIMING

Brief descriptions of some of the key tools provided by *Stalk the Market* are described here. At this time, don't be alarmed if you don't fully understand their purposes. Once you start working with *Stalk the Market*, the mud will clear.

♦ Cyclic Component

This is a period of time required for the price of a stock to go from one maximum (or minimum) to another maximum (or minimum). Typically a given stock shows several predominant components which are operating simultaneously. Also, the duration of these components can change as time passes. A cyclic component is expressed as a number of days (e.g. elapsed time between adjacent maxima). Knowledge of these cyclic components is very useful for optimizing your profits from stock transaction timing. *Stalk the Market* provides several methods for determining these components.

♦ Trading Cycle

This is the period of time between actual stock transactions. Typically it is based on your convenience (how often do you want to call your broker) and the some predominant cyclic component of the stock of interest. The trading cycle would normally be the interval between like transactions (e.g. the time elapsed between successive buys). You will actually trade twice this often, since you will buy in the valley (when the price is low) and sell at the peak (when the price is high). The full cycle lasts from the initial valley through the peak and on until the next valley (the next buy point) is reached.

◆ Valid Trend Line (VTL)

This is a line constructed graphically and used to estimate a trend in the stock price behavior. This line is usually drawn through two adjacent peaks (or valleys) of a cyclic component shorter than the trading cycle. A Buy (or Sell) point is indicated when the actual stock price, at some future date, passes through this line. *Stalk the Market* provides easy construction of these trend lines and can automatically detect penetrations.

◆ Trailing Loss Level (TLL)

After a Buy point has been established, certain price levels can be set as trailing loss levels. These levels usually coincide with minima in one of the shorter cyclic components. If the stock price drops below an assigned TLL, a sell point is suggested. Again, *Stalk the Market* provides a method for setting these levels and then monitors the stock behavior relative to TLLs currently established.

◆ Moving Average

This is a mathematical technique for reducing the short term fluctuations in time/price data. "Short" is determined by the size of the moving average "window" (group of adjacent time/price data pairs). Removing the short term fluctuations can permit easier observation of the longer cyclic components. It may be used to signal buy and sell points.

◆ Residuals

If the moving average (containing only the longer term components) is subtracted from the original data, what remains are the short term components, or *residuals*. With the longer term components removed, short term components may be more easily recognized.

♦ **Fourier Analysis**

This is a complex (literally) mathematical technique which automatically identifies the relative significance of a range of possible cyclic components.

♦ **Simulation**

Stalk the Market provides several methods for examining historical stock data and treating it as if it were in the present (it prevents you from "looking into the future"). These simulations allow you to practice your skills at setting VTLs and TLLs, buying and selling stock, and making money using real, but historical, stock data.

♦ **Stock Information File (SIF)**

This is a disk data file which contains time/price information for a particular stock issue. In addition to this information, such data as volumes traded, simulation tuning parameters, cyclic components, valid trend lines, and trailing loss levels are contained in this file. An SIF can contain up to:

- ♦ 500 data sets (date; high, low, and closing price; and volume traded)
- ♦ 25 cyclic components
- ♦ 25 valid trend lines
- ♦ 25 trailing loss levels
- ♦ 1 set of simulation tuning parameters

Regardless of how much data is stored, an SIF is always the same size: 6690 bytes.

♦ Stock Information Structure (SIS)

This is an image of the Stock Information File, once it is placed in the ST's memory. A maximum of four SISs may be loaded at one time (depending on available memory). "Opening an SIS" implies that an SIF is read from disk and its contents placed into the computer's memory. "Saving an SIS" takes this section of memory and records it back into the Stock Information File on disk for safe keeping.

GETTING STARTED

1. Before proceeding, make a Working Copy of your *Stalk the Market* Master Disk. Consult pages 164-167 for the various alternatives, depending on your disk drive arrangement.
2. Insert your *Stalk the Market* Working Copy into Floppy Disk Drive A. If the computer is off, turn it on and wait for the desktop to appear. If Drive A's directory is not displayed, double click on the Floppy Disk A icon.
3. Examine the directory of your Working Copy for a file named **README.DOC**. If it's there, list it (double-click on the entry, then click on **Show** or **Print**). This file provides any updates made to the documentation since your copy of this User's Guide was printed.
4. Identify the directory entry **STALK.PRГ** and double click on that item to begin loading *Stalk the Market*. The program will take about 30-35 seconds to load. You will be greeted with a "Title Dialog." Enter the date (if necessary) into this dialog box, insert your Data Disk (single-sided floppy users only!) and when ready to proceed, click on the **Buy!** button. You are now ready to *Stalk the Market!*

A QUICK SNEAK PREVIEW OF STALK THE MARKET

Let's assume you have successfully loaded *Stalk the Market* and have acknowledged the credits in the Title Dialog. You should see several menu items across the top of a blank desktop (your monitor's screen): **Desk**, **File**, **Select**, **Plot**, **Quote**, and **Analyze**. Now what?

1. Drop down the **File** menu (by using the mouse to move the arrow cursor over the **File** menu title) and select the **Open...** item.
2. A small dialog box with three buttons will open. Click on **Daily**. The *GEM File Selector Box* will then open. Double click on the **ATC.DAY** entry. This may be your only choice. **ATC.DAY** is the Stock Information File containing data for Atari Corporation (ATC) stock. The SIF will be read into memory. A summary dialog box will be displayed. Click on **Okay**.
3. An empty window will be created in the upper left corner of the desktop. Before you can marvel at its whiteness Atari's stock price history will be displayed. (Notice the stock split in late June, 1987.) Time is displayed along the horizontal axis. The labels may be in years, months, weeks, or days depending on the range of the data. For this Stock Information Structure (SIS), the horizontal axis is labeled in months. The vertical axis is, of course, the stock price, labeled in dollars. For each date any trading occurred on the market, a vertical bar is displayed spanning the day's range of prices (from low to high). This is the most common way of displaying stock price historical data.

4. Let's make this window a bit larger. Go over to the **Plot** menu and select **Tile Windows**. The window now expands to fill almost the entire desktop. Now you can (almost) make out each individual day's price bar. **Tile Windows** rearranges the displayed windows so that none of them overlap and so that the entire desktop is covered. This is pretty easy for a single window. In a while we'll see what **Tile Windows** does with two displayed windows.
5. (Color version only!) The price bars are plotted in red. You'd rather have them in blue! Again, go over to the **Plot** menu, but, this time, select **Modify Parameters....** A dialog box should appear. Click on the **Red** button next to **Data Color?** The button color changes to blue. Click on it again -- black! Click on it twice more to get back to blue. This is how you select the plot color. Now, click on **Plot**. The dialog box disappears and the SIS is redisplayed in blue.
6. Try using the Modify Parameters dialog box to display a grid over your stock data. Give up? Just click on the **No** button next to **Grid?** (it changes to **Yes**), click on **Plot**, and... eureka! That should have been easy. Try the analogous operation to include the volume data in the display. (The volume data, if so specified, will always be displayed in the lower fifth of the window.)
7. Now... try to overlay a plot of just the closing price data on top of the Hi/Lo price bars. Try making the closing price plot a different color (color version only!). This is a little trickier but you shouldn't find it too hard. Go ahead and experiment with various combinations of plot parameters to generate a display to your liking.

8. Okay, that was fun. Now suppose you're tired of the big window. Those of you who are familiar with other GEM applications (e.g. *1st Word*) should know how to shrink the size of the window. That's right, just click on the window's **Size Box** (in the lower right corner) and drag that corner to the desired destination. Release the mouse button and the window resizes itself and the data is redisplayed within this new window. No big deal. (If you've been overlaying, you may notice that only the most recent form of the data is redisplayed: overlay combinations are not redisplayed.) So you want to move the window to a new location on the desktop? Click on the shaded bar (the **Move Bar**) across the top of the window and drag the window's outline to the desired location. Release the button and... voila! One more sizing operation: click on the **Full Box** (upper right corner of the window). How is this different from **Tile Windows**? (If you can't tell, now try selecting **Tile Windows**. Better yet, try these two options later when we have two windows open.)
9. Now suppose you want to just look at a portion of the displayed SIS, i.e. you want to zoom in on that portion. Okay... Go to the **Plot** menu and select, you guessed it, **Zoom**. The arrow cursor is replaced by a crosshair. Use the mouse to move it to the upper left corner of the data region of interest, press the **left** mouse button and *drag* the expanding rectangle to the right and down to encompass the whole data region of interest. Release the mouse button. There you have it! Sometimes you might, by accident, release the mouse button when the zoom rectangle is really small. If you do, then you might just get a blank window. You can remedy this most easily by...

10. Now you want to get back to a display of all the data? Go to the **Plot** menu and select **Display Full Range**. Easy enough.
11. Experiment with the window's **Scroll Bars**, **Scroll Arrows**, and **Scroll Boxes**. It should be obvious what is going on. If you "lose" your data (all you see is white), you can get it back by selecting **Display Full Range** again (you were just displaying a region where there was no data). Try holding down the <Shift> key on the your ST's keyboard while pressing one of the horizontal scroll objects. Can you tell the difference?
12. Now you're an expert with a single window. Let's double the trouble. We'll open a second window with another copy of the Atari SIF. Go to the **Select** menu and select **SIS B**. (Notice that this menu provides a little information about what's in each of the available windows. The window we've been working with so far contains **SIS A**.) Go back to the **Select** menu again and notice that **SIS B** now has a check beside it. It is the active SIS. Okay, open up **SIS B** with a copy of **ATC.DAY** (Atari Daily Stock data). If you have trouble, refer back to Step 1.

NOTE: If your computer is short on memory (lots of desk accessories or a ramdisk is installed), you may not be able to select **SIS B** (or C or D). Sorry about that; proceed to Step 17.

13. Two windows should now be displayed. Go ahead and play around with **SIS B**; change colors (color version only), resize the window, zoom in on May, 1987, etc. You will note that all this can be done with **SIS A** hiding in the background waiting patiently for some attention.

14. Okay, so your tired of **SIS B** and you want to return to **SIS A**? There are several ways you can do this:
- ◆ Use the Select menu;
 - ◆ Press the <A> key on the ST's keyboard;
 - ◆ Or simply use the mouse to move the cursor over **SIS A** and click on that window (press and release the left mouse button).

Sometimes the window you want will be completely covered by other windows. You may use either of the first two methods to bring that buried window up to the top.

15. See what happens when you select **Tile Windows**. Logical?
16. Memory permitting, go ahead and open up **SIS C** and **SIS D**. Manipulate them around the desktop to your heart's content.
17. You're probably getting tired of Atari stock data. Unfortunately, you were provided with no other data along with the program. Don't worry -- later on you'll learn how to enter your own data (see page 149) or download data from *Dow Jones News/Retrieval* (see page 151). But we can convert the Atari daily data to *weekly* data. Weekly data is simply a combination of a week's worth of daily data into a composite high and low for the week. The date and closing price correspond to that data for the last trading day of the week (usually Friday). Go to the **File** menu and select **Convert...** A dialog box will appear. Click on **Proceed**. The currently active SIS will be converted to the weekly data format and stored in a new Stock Information File on disk (automatically named **ATC.WK**). Ah, but you want to look at this new weekly data. But all your windows are being used...

18. Closing a window: select the one you want to close (make it the active SIS). Click on the window's **Close Box** (upper left corner). A dialog box will appear. Click on **Drop** (we haven't changed the SIS, so we don't need to save it). Away goes the window... Another alternative: go to the **File** menu and select **Clear (Save All)**. If you should be so bold, all SISs will be saved and their corresponding windows closed leaving you with a nice clean desktop. (If you closed only one SIS, one of the remaining SISs will become active. Select the unassigned SIS, the one you just closed, before proceeding.) Okay -- now you can open up your new weekly SIF. The only difference is the button you click on in the "Daily - Weekly - Monthly" dialog box (guess which one!) and the file you select in the *File Selector Box* (you shouldn't have too many choices).
19. Try creating a monthly data SIF. Can you create it from a weekly SIS?
20. The Hi/Lo price bars are nice, but what are the actual prices? ...and what are the actual dates? Okay... Pick one of your active SISs. Go to the **Quote** menu and select the very first item, **View Single Days** (it says **Days**, but it works on weekly and monthly data, too). Use the mouse to move the arrow cursor over the active window. You now should have a pointing hand cursor and... presto! The prices and dates are displayed. Try moving the hand around the window. Pretty easy, huh? Notice that vertical movement of the hand doesn't have any effect (unless you move outside the window). On what date did Atari's stock split?
21. Try moving the hand to a date where the stock is at a relatively low price. At this point press the **left** mouse button. A dialog box should appear with detail of that date's data. Click on **Save**. This date will now be recorded as a *Buy Point* (see the label?). Now move the hand to some later date when the stock price is

relatively high. Press the **right** mouse button. (See the difference between pressing the right and left mouse buttons? -- you have now selected a *Sell Point*.) Click on **Save** again. Note that we are still in the **View Single Days** sequence (the **Quote** menu title is still highlighted). We'll come back to your selected buy and sell points shortly, but let's first print out a table of some price data...

22. (You may want to skip this step if you don't have a printer hooked up to your ST. However, if you do proceed here with no printer, the text generated will be automatically "printed" to a disk file named **STOCK0.PRT**, so this wouldn't be a total waste of time.) Move the hand outside the active window (over the desktop or some background window) and click the left mouse button. This is how you exit the **View Single Days** sequence (note that the **Quote** menu title de-highlights). Now, go back to the **Quote** menu and select **Print Single Days**. Move the hand over the active window -- similar to **View Single Days**? Ah, but now press either of the mouse buttons. Nothing? Is your printer on? Let's assume the date and price information for the selected date printed. Try moving the hand to another date and click on that date. You can continue to print out every date one day at a time, but that gets old fast...
23. Move the hand off the window and click on the desktop (just like for **View Single Days**) to exit this sequence. Now go to the **Quote** menu and, this time, select **Print Range of Days**. Now pretend you want to "zoom" in on a region of data of particular interest (see Step 9 above). What happens? Good enough! Try another region... That's enough printing for now. Let's see what we can do with those buy and sell points we created a little while back. First, move off the window (to the **Done** on the Menu Bar) and click the mouse to exit the **Print Range of Days** sequence.

24. Make sure the SIS you used to select the buy and sell points is the one that is currently active. If so, go back to the **Quote** menu and select **Gain/Loss Calculator**.... Wow! Don't panic! A rather complex dialog box should now be before your eyes. What all is here?
- ◆ First, in the upper right are two "mini-windows" displaying your selected buy and sell points (one of each). Once you have entered some more points, the vertical **Scroll Bars** and **Arrows** can be used to select different points.
 - ◆ To the left of the mini-windows are a bunch of calculated results that should be self-explanatory. These calculations are based on a stock purchase at the buy point highlighted in the center of the *Buy* mini-window and a subsequent stock sale at the sell point highlighted in the center of the *Sell* mini-window.
 - ◆ At the bottom of the dialog box is a third mini-window where the SIS is redisplayed. The above buy/sell region is highlighted in this plot.
 - ◆ Several buttons for additional operations. For now, just click on **Exit**. Don't worry, we'll be back to this neat dialog box in just a moment.
25. One more time, go to the **Quote** menu but, this time, select **Buy & Sell**. Now, again, just like the "zoom" operation, define a rectangle whose left side now defines a buy point and whose right side defines a sell point. After releasing the mouse button... here comes the **Gain/Loss Calculator** back (that didn't take long, did it?). Now, your just-selected buy and sell points should be included (and highlighted) in the *Buy* and *Sell* mini-windows and the corresponding region highlighted in the SIS mini-window graph. If, at this point, the **Shares Traded** result shows zero (which it might, depending on where you selected your buy and

sell points), click on the **0** to the right of **Shares Traded**, press the <Esc> key to clear the field, and type in some positive number of shares (say 50), and type a <Return>. Now you should have some results. Try changing the shares traded to something else. Note the effect on the calculated results.

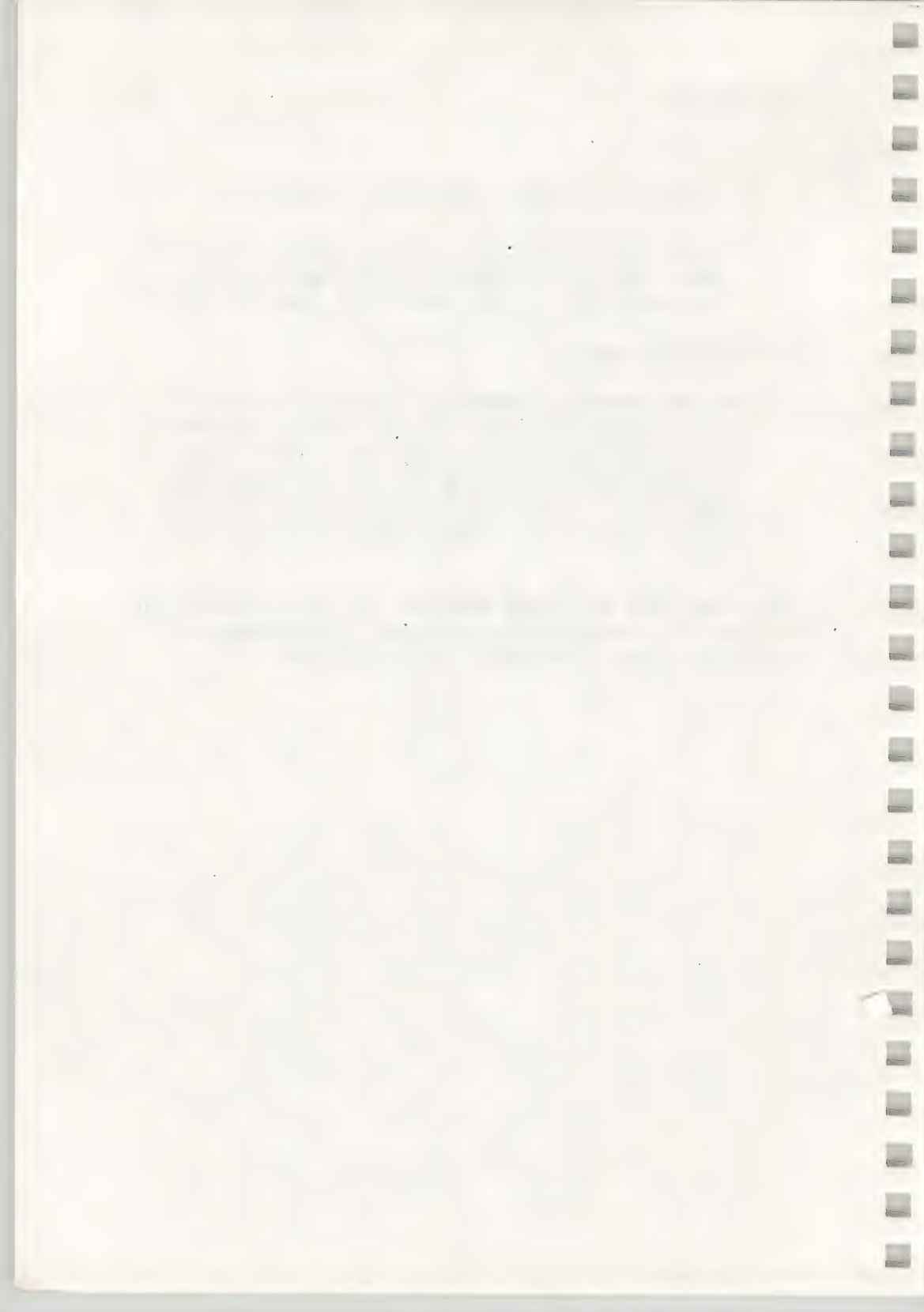
26. You now should have several buy and sell points in the mini-windows. Try experimenting with the vertical scroll boxes and arrows. Can you figure out why certain scroll operations are not permitted? Try pressing the small buttons bordering the left side of the SIS mini-window. Can you figure out what each of them do?
27. Not impressed yet? Use the mouse to move the arrow cursor over the SIS mini-window graph (you may have done this already, inadvertently). The arrow cursor should turn into a crosshair. Try our familiar zoom operation (like what you did for **Buy & Sell** above), keeping the crosshair over the SIS mini-window. Interesting...try it again...and again... Now go back and experiment with the scroll bars, SIS mini-window buttons, and **Shares Traded** editable field.
28. We're almost done with our "Quick" Sneak Preview of *Stalk the Market*. Before we depart, one quick glimpse at a "coming attraction." Click on the **Ledger** button. Take a look at the result, experiment at your own risk (no real danger, of course) but you are on your own for now. Okay, let's close up:
 - ◆ Click on the Ledger's **Cancel** button to return to the **Gain/Loss Calculator**.
 - ◆ Click on the Calculator's **Exit** button to return to real windows.

- ♦ Select **Clear (Save All)** from the **File** menu.
- ♦ Press the <Q> key on the ST's keyboard. This is the *Quick Key* for the **Quit** item in the **File** menu. As you might guess, this terminates *Stalk the Market*.

For the adventurous:

Use the **Gain/Loss Calculator** to select a series of buy and sell points which coincide with successive valleys and peaks in the Atari daily data. Notice the accumulating earnings. How do these earnings compare with those from a single purchase at your first buy date and a single sale on your last sell date?

This concludes our Sneak Preview. We *have* scratched the surface, but we haven't even touched on the **Analyze** menu. And that's where the *really* good stuff is!



USING STALK THE MARKET

INTRODUCTION

If you have already worked through the *Sneak Preview* in the previous section, you already have a grasp of the capabilities of *Stalk the Market*. In this section I'll provide you with some general guidelines for various ways you can use *Stalk the Market*. I'm not going to dwell on many of the mechanical details; that's all described in the following *Reference* section. I would suggest browsing through this section to get a feel for some of the capabilities, then refer to the pertinent parts of the *Reference* to fill in the details.

This section is not intended as a comprehensive how-to-do-everything guide, but rather as just a brief description of how various features of *Stalk the Market* can be used together to accomplish certain objectives. Of course, as you become more familiar with the capabilities, you will establish your own techniques most comfortable for you. This section is only meant to get you started out on the right track.

In general, I'm going to assume you have downloading capability (see below or references listed in the *Index*) and, as new topics are introduced, you are already familiar with ones previously covered.

I'll start with some suggestions for how to use *Stalk the Market*, depending on your Atari ST's configuration, then move into some of the historical manipulation techniques, and finish up with methods for using *Stalk the Market* to stalk your own stock into the future.

SETTING UP YOUR SYSTEM FOR STALK THE MARKET

DISK DRIVES

This doesn't have to be very difficult. You could simply insert your Master Disk into Floppy Drive A, boot up your system, and click on **STALK.PRG** in the directory listing. However, I would suggest you first make a backup copy (the Working Copy, formatted double-sided) of the Master Disk and then stuff the Master Copy away in a safe place (there is very little free space on the Master Disk). If you only have a double-sided floppy drive (e.g. a "bare" 1040ST) then you may proceed as just described (but use your Working Copy!). With other disk configurations it may be to your advantage to do things a little differently.

First, a little background. *Stalk the Market* stores stock time/price data in disk files; one file for each company (e.g. Atari, IBM, Tonka Toys, etc.) as well as each type of data (daily, weekly, or monthly composites). In addition, each of the transaction ledgers that you generate for any one of these will have its own file on disk. The Stock Information Files are always fixed in size (6690 bytes) while the size of a Ledger File grows as the ledger grows. The moral of this story is that if you start storing data for lots of companies you are going to need some disk space. A single-sided floppy with all the programs and support files on it (such as your Master Disk) has room for only a couple Stock Information Files.

If you have only one floppy drive and it's single-sided, you should create a Data Disk (page 164). This will hold about sixty-five Stock Information Files. If your portfolio is larger than this I would suggest selling a few shares and use the proceeds to buy a double-sided drive or a hard disk!

If you have only one floppy drive and it's double-sided (e.g. a "bare" 1040ST), you can create your working copy on a disk formatted double-sided and have enough room for at least fifty Stock Information Files plus the program and support files all on this one disk. Finally, if you have a hard disk, don't waste any time: move everything over to it (page 166) and forget about the floppies.

PRINTERS

Many features of *Stalk the Market* include an option to print data or calculated results. Of course, to really print you ought to have a printer attached to your Atari ST (preferably to the parallel printer port). You can set *Stalk the Market* up for other configurations (even one with no printer); see page 54. If you have successfully used your printer for generating graphics hard copies using the <Alternate-Help> keystrokes, this same method will work fine for producing hard copies of any of the *Stalk the Market* graphics. You may also "print" these displays into DEGAS picture files; see page 57.

MODEMS AND COMMUNICATIONS

In order to take full advantage of the capabilities of *Stalk the Market* without getting bogged down in the painful manual entry of stock data, it would behoove you to get a modem and subscribe to *Dow Jones News/Retrieval*. Read the *Reference* sections on *Manual Data Entry* (starting on page 64), then the section on *Automatic Downloading* (page 153). Which sounds easier? Of course, if you don't have a modem or haven't yet got your subscription to DJN/R, there's lots you can do in the meantime. Read on!

DESK ACCESSORIES, RAMDISKS, ETC.

Being a full-fledged GEM application, *Stalk the Market* will not prevent you from using any Desk Accessories loaded when you started up your Atari ST. Some of these may, in fact, prove useful while using *Stalk the Market* (e.g. the Control Panel can be used to change the colors or the VT-52 Emulator can be used for checking your communications before using the *Automatic Downloading*). Any ramdisks you may have set up prior to running *Stalk the Market* should be recognized by the program. You will probably have to change the default path (page 160) if you want to use this "disk."

Stalk the Market is a fairly "memory intensive" program. The more memory you have available, the more Stock Information Structures you will be able to manipulate simultaneously. As you load up your computer's memory with desk accessories or ramdisks, you may start to reduce the number of available structures. In fact, if you are using a 520ST with only 512K of RAM, you may have to minimize the number of these items in order to provide enough memory for *Stalk the Market* to run properly (if at all!).

GETTING STARTED

Okay, everything's set up the way it should be and you want to use the program. The *Getting Started* section of the *Introduction* (page 11) tells you what to do.

GRAPHICAL ACROBATICS USING *STALK THE MARKET*

Before you submerge yourself in all the intricate inner-workings of *Stalk the Market*, you should familiarize yourself with the basic graphical manipulations provided by *Stalk the Market*. The Atari ST's GEM interface provides a very convenient means for manipulating the graphical presentation of stock time/price data as well as the other tools available from *Stalk the Market*. Generally speaking, GEM windows are used for graphing the time/price data, GEM dialog boxes are used for setting parameters, doing the bookkeeping, entering new data, and initiating many of the *Stalk the Market* computations. Finally, the GEM drop-down menus are used, of course, for telling *Stalk the Market* which of all these you want to do. The *Sneak Preview* in the previous section (page 12) gives a good introduction to these acrobatics. The *Reference's Basic Operations* section (page 39) fills in the details.

**BUILDING UP YOUR PORTFOLIO
AND KEEPING IT UP TO DATE**

When you purchased *Stalk the Market* you were given only the stock history for Atari Corporation (and it probably wasn't even up to date). One of the first things you are going to want to do is bring in data for the stocks that interest you (or ones that exhibit good cyclic behavior--more about that later). And you are going to want to keep this data up to date as time passes. Here's what you need to do:

1. Download the historical data for your selected stocks: Enter the accepted abbreviations for your stocks into the **Download Portfolio** (page 155), set up the modem for communications with *Tymnet* or *Telenet* and *Dow Jones News/Retrieval* (page 154), select lots of download segments (maximum of 22; 12 trading days per segment; page 156), and **Download!** the data (page 157).

NOTE: If you do not know the "accepted abbreviations" for your stocks, you can access DJN/R using your own communications program (or the VT-52 emulator desk accessory) and use DJN/R's **//SYMBOL** command to determine the abbreviations.

The selected data will be downloaded and stored into appropriate Stock Information Files. You can now access these new stocks just like you did for Atari's.

2. Periodically update your historical data: Dow Jones updates their data bases early every morning with the previous day's composite prices. To keep your own Stock Information Files up to date, you will have to download these updates periodically. This is typically much simpler and faster than the initial download. If your portfolio hasn't changed and you performed the last update fairly recently (within the last 12 trading

days) all you have to do is the actual **Download!** in the above sequence. This will bring in the most recent data for each stock in your portfolio and add it to the existing Stock Information Files.

SETTING UP COMMISSION SCHEDULES

Whenever you make a stock transaction, either buying or selling shares, your broker is going to charge you for his/her service. This commission reduces the amount of the actual investment (purchases) and the income received (sales). Depending on your broker, the commission is usually based on either the stock price/shares traded or the total money involved in the transaction. *Stalk the Market* provides for both these types of schedules (page 70). The commission schedules (up to five) are kept separate from the Stock Information Files. You just have to enter the schedules themselves once (page 70) and then tell *Stalk the Market* which schedule goes with each Stock Information File. If you have just one broker you'll only have to enter one schedule. You can then use the other four schedules for experimentation (such as a schedule which generates a zero commission). If you are using *Stalk the Market* just for "playing around" and have no intention (yet) for actually buying any stock, then you can just make up a schedule or use the hypothetical (but realistic) one provided with *Stalk the Market*.

ENTERING THE SCHEDULE(S)

This procedure is described in detail in the *Reference* section (page 71). The schedules you enter will be saved on disk (in the file **STOCKS.COM**) and will be restored every time you run *Stalk the Market*. So, probably, you will only have to do this once, unless you do lots of "fiddling around." I would suggest designating one schedule as your "permanent" schedule (your broker's real schedule) and resist changing it (unless he/she changes the rates) and use the others for experimentation.

ATTACHING A SCHEDULE TO A STOCK INFORMATION FILE

Let's assume you've already entered the schedules you want. To attach the desired schedule to a particular Stock Information File:

1. Load the desired Stock Information File (page 39).
2. Select **Edit Commission Data...** (page 71).
3. Select the desired schedule from the dialog box (page 71).
4. Click on **Exit**.
5. Save the SIS to disk (page 53).

The schedule number (not the schedule itself) is kept within the Stock Information File so if you, at some later time, change this commission schedule, those changes will be reflected in any subsequent commission calculations for this stock.

To experiment with different schedules for a particular stock, simply use **Edit Commission Data...** to select the desired schedule. This selection will be assigned only to the active Stock Information Structure. Unless you save the SIS, this assignment will not be retained after you leave *Stalk the Market*.

MANUALLY ENTERING COMMISSIONS

You may override the "automatic" commission calculation for an individual transaction by editing the (unprotected) ledger (page 85).

HISTORICAL MANIPULATIONS

So much for the preliminaries. *Stalk the Market* provides many techniques for working with historical stock time/price data contained in the Stock Information Files. These, in general, are experimental in nature: you are not actually buying and selling real shares of stock. You are really asking questions like "What if I had bought 100 shares of Atari Stock on November 17, 1986 and sold it today?" or "What if I bought and sold it as the price went through lows and highs over this same period?" and "How do these two scenarios compare?" You can use the **Gain/Loss Calculator** (page 75) to experiment with these comparisons.

Hopefully, you will also be asking yourself "Does this stock show some predictable cyclic behavior that is likely to continue into the future?" The tools available from the **Cycles...** menu (page 95), as well as simple visual inspection of the time/price history, are valuable for assessing and quantifying the cyclic behavior of a stock's price.

As mentioned in the *Introduction* (page 1) successful transaction timing depends on some "predictable cyclic behavior." You will have to use *Stalk the Market* to convince yourself that a given stock shows this behavior. If it doesn't you should consider experimenting with another stock. Generally speaking, the more stable the company (i.e. high Standard & Poor's rating, low price/earnings ratio, high yield, large earnings growth, etc.), the more predictable the stock prices will be.

If you decide to use *Stalk the Market* for suggesting immediate (and perhaps real) transactions as new data is added, you will want to become familiar with establishing **Valid Trend Lines** (page 122) and **Trailing Loss Levels** (page 130). Working with historical data using the **Manual Simulation** (page 137) will give you this experience.

The **Quotation Ledger** (for the **Gain/Loss Calculator**) and **Simulation Ledger** (for the **Manual Simulation**) allow you to go back and examine or experiment further with the hypothetical transactions you have performed.

USING STALK THE MARKET AS A FINANCIAL ADVISOR

"Playing with history" is all well and good, but suppose you're really interested in investing now and stalking your investment with *Stalk the Market*. You can do this "for pretend," without actually buying or selling real shares of stock, until you are confident enough to "play for keeps." In either case, *Stalk the Market* will make recommendations for stock purchases or sales and will keep track of your transactions in a Permanent Ledger.

Stalk the Market's recommendations for purchases and sales are based on three key tools:

- ◆ **Valid Trend Lines:** these are established by you, using the **Update** (page 146) or **VTL...** (page 124) menu selections. These are kept in the Stock Information File for future use.
- ◆ **Trailing Loss Levels:** again, these are set by you, using the **Update** or **TLL...** (page 131) menu selections. They are used only for recommending sell points.
- ◆ **Moving Averages:** these are calculated from the **Cycles...** menu selection (page 106) or the **Update** dialog (page 140). Buy and Sell points are signaled when the moving average falls below or above the current price, respectively.

The **Valid Trend Line** requires an established *Trading Cycle* (page 96) and the next shorter cyclic component. These two components must be determined by you, using the options available in the **Cycles...** menu (page 95).

Using *Stalk the Market* as an advisor is perhaps best explained through an example scenario:

1. You have already created a Stock Information File for a stock which you believe is suitable for timed transactions based on the cyclic behavior of the stock's price.
2. Using the historical manipulation methods, you establish a **Trading Cycle** (page 115) and at least one shorter cyclic component.
3. You then experiment with **Valid Trend Lines, Trailing Loss Levels, Moving Averages, and Manual Buy and Sell** points using the **Manual Simulation**. You are now confident this cyclic behavior will continue into the future.
4. You make sure your Stock Information File is up to date (downloading new data if necessary).
5. Now, using the **Status...Update** menu selection (page 146) you examine the most recent time/price data and establish a **Downward Valid Trend Line** (page 124), if indicated by the recent data. The VTL must extend at least to the present date for *Stalk the Market* to make a recommendation for a stock purchase. Now, several things could result:
 - ♦ If no **Downward VTL** can be constructed at this time, you're done for now. Check back tomorrow (or later) when new data is available. (In the meantime you could use the **Automatic Simulation** to see if *Stalk the Market* would have constructed a VTL in this region.)
 - ♦ You can construct a **Moving Average**. If the current price falls above the end point of the moving average, a buy point is indicated (see below).

- ◆ You are able to construct a **Downward VTL**, but no penetration is indicated. Again, you're done for now. When you download new data in a day or two, it will be checked against this **VTL** (during the downloading!) and you will be alerted of any penetration. The next time you **Update**, *Stalk the Market* will use this **VTL** to make its recommendation, if any (you don't need to construct it again).
 - ◆ You construct the **Downward VTL** and a penetration is detected. You decide this is a "good" buy point. You so indicate (page 126) and record this transaction in the Permanent Ledger. If you're playing "for keeps," you call your broker and buy the shares of stock. The actual share price you are charged (and the date of the transaction) may be different than that just entered into the ledger. You can "fine-tune" the Permanent Ledger from the **Transaction Update** dialog box (click on **Ledger**, page 140). Now you're ready to start looking for a good sell point... Skip ahead to Step 7.
6. If you're still looking for a **Downward VTL** or a penetration of one already constructed, wait until more data is available (tomorrow or next week) and return to Step 4.
 7. Okay, you've bought some stock! Now you need to start looking for a good time to sell. First, on the same day you purchased the stock (or shortly thereafter) you use **Update** to set an initial **Trailing Loss Level** at the most recent minimum in the stock price.

NOTE: The **Trailing Loss Level** is a price you set which the stock price better not fall below (if it does, the price isn't behaving in the cyclical manner you expected: you may want to "cut your losses" and sell now!).

You may want to wait a couple days to set your first **TLL**, to make sure the price has really "bottomed out," but don't wait too long! Hopefully (if your predicted cyclic behavior holds), the price will begin to rise.

8. You wait a few days... Then you use **Update** to see if an **Upward Valid Trend Line** is taking shape. If so, you go ahead and construct it (like Step 5 above, only now you are looking for a Sell point). This may take a while (depending on your *Trading Cycle* and, of course, the predominant cyclic behavior of the stock price itself). You also look for new **Trailing Loss Levels** ("local" short-term minima in the time/price data, see page 130).
 - ◆ If a Sell transaction is indicated (by *Stalk the Market's* recommendation or your own judgement), from either an **Upward Valid Trend Line**, **Moving Average**, or **Trailing Loss Level** penetration, you perform the transaction: enter it into the ledger (page 126) and call your broker, similar to Step 5 above. Now you're ready to start all over with Step 4. If your predictions of the cyclic behavior were correct you should now have a handsome profit which you can either pocket (using a **Withdrawal** transaction, page 89) or reinvest the next time around.
 - ◆ If nothing exciting has happened to the stock's price (hopefully it is still inching upward), you continue with Step 8.

Time passes and you go through several of these buy-sell cycles. If you've "played your stocks right" you've collected a handsome profit (particularly if you reinvested interim income).

This whole sequence can be performed in "real time" (as it happens), as described above, or you can use the same procedure on historical data using the **Manual Simulation** (don't bother calling your broker though). The Manual Simulation dialog and the Transaction Update dialog are essentially identical (of course, the Manual Simulation does not affect the Permanent Ledger).

***A Word of Caution:** Keep close tabs on the commission charges; even though you may be "buying low" and "selling high," the commissions may be eating up all your apparent gains. You may have to adjust your trading cycle to look for more predominant fluctuations in the stock's price or increase the dollar amount of your investment to minimize the effect of the commissions.*

SUMMARY

This brief exposure to some of the necessary and/or more interesting aspects of *Stalk the Market* is hopefully sufficient to get you started towards effective (addictive?) use of its capabilities. Again, this was not intended to be exhaustive; as you're waiting for that penetration of the **Downward Valid Trend Line**, go ahead and work through some of the nitty-gritty details of the *Reference* section. I haven't even mentioned **Fourier Analysis** or **Residuals** or **Ledger Optimization** or...

REFERENCE

BASIC OPERATIONS

Most of the features described in this section have already been introduced in the *Sneak Preview*. Here you get the excruciating details.

LOADING A STOCK INFORMATION STRUCTURE

Stock time/price data and associated financial transaction timing indicators (VTLs, TLLs, and tuning parameters) are stored on disk in Stock Information Files. In addition, any transaction history is stored in a corresponding Permanent Ledger File. In order to view, manipulate, or modify any of this data, these files must first be loaded into your ST's memory. Loading a Stock Information Structure automatically loads the corresponding Permanent Ledger.

1. (Optional) Select the desired SIS using the **Select** menu. The selected SIS will henceforth be checked in the **Select** menu. If this step is skipped, the currently selected SIS will be used. *Quick Key:* press <A>, , <C>, or <D>.
2. Select **Open...** in the **File** menu. *Quick Key:* press <O> (for Open, not zero) or <F1>.
3. In the resulting dialog box, choose one of the three possible SIF types:

♦ **Daily**

Stock price high, low, and close are stored for every trading day. The SIF can hold 500 trading days which corresponds to about two years of stock price data.

◆ Weekly

Each week's stock prices are compressed into a single high, low, and close for the week. The volume is the total for the week. A weekly SIF can store data for 500 weeks (about 9½ years). This data is not available directly from *Dow Jones News/Retrieval* but it may be created from an existing *daily* SIS or entered manually.

◆ Monthly

Each month's stock prices are compressed into a single high, low, and close for the month. The volume is the total for the month. One SIF can store about 41½ years of monthly data! This data may be downloaded directly from *Dow Jones News/Retrieval* or it may be created from an existing *daily* SIS (but not from a *weekly* SIS) or it may be entered manually.

The SIF type selected may be changed within the *GEM File Selector Box*. The **Open** operation may be canceled from the *File Selector Box* or from the following SIF Information dialog box (see below).

4. The *File Selector Box* will appear. Double click on the desired SIF. Notice that the SIF name is constructed from the standard stock abbreviation (e.g. ATC) and the SIF data type (.DAY, .WK, or .MON).

HINTS FOR USING THE FILE SELECTOR BOX

- ◆ You may need to use the vertical **Scroll Bar**, **Box**, or **Arrows** to find the desired SIF. Alternatively, you may type the filename into the text field above the **Cancel** and **OK** buttons and then type a <Return> to continue with the **Open** operation (you may type in the stock abbreviation *without* the data type extension if you don't need to change the data type from that specified above).

- ◆ You may change the SIF data type by editing the Directory field. If you do this, DON'T type a <Return> in this field (the **Open** operation will be canceled). Instead, click on the vertical **Scroll Bar** to update the filename list with the SIF names of interest. Then double click on the specific SIF desired.
 - ◆ Instead of double clicking on the desired SIF you may (single) click on it (highlighting it) and then click on **OK** or press <Return> to continue.
5. The selected SIF will then be read into memory (into the selected SIS) and an SIF Information dialog box will appear. The displayed information includes:
- ◆ The SIF name.
 - ◆ The number of points (dates) currently stored (as a fraction of the maximum of 500).
 - ◆ The most recent date stored.
 - ◆ The selected SIS.
- If this is the intended SIF, click on **Okay**. Clicking on **Cancel** will abort the **Open** operation.
6. A new window is created and the data is displayed. The plot parameters (data color, data type, and grid) will be restored from the last time the SIS was saved (or, for a new SIS, will default to red (black for monochrome), Hi/Low bars, and no grid, respectively). These parameters can be modified (see page 49). Note that the SIS identifier, stock abbreviation and data type (e.g. "A: ATC (Daily Data)") are included in the *Window Title*. The SIS memo (see page 50) is displayed in the *Information Line* beneath the window's **Move Bar**.

MANIPULATING THE GRAPHICS DISPLAY

The historical time/price data is displayed within a GEM window. Normal window operations (e.g. Scroll Bars, Size Box, Full Box, and Move Bar) may be used to resize or reposition the window or shift the data within the window. In addition, the data presentation itself may be changed through interaction with a dialog box. Drop-down menu items permit rearrangement of the windows and several rescaling options.

Window Operations

Scrolling Through the Data

If you are familiar with the terms *zoom* and *pan*, these are the *pan* functions. They shift the *range* of the data:

- ♦ **Left Scroll Arrow:** The displayed data is shifted one point *earlier* in time. That is, the most recent point will be shifted out of the window to the right and an earlier, older, point will enter the window from the left (if earlier data exists). The amount of the horizontal (time) shift depends on the data type (one day, week, or month).
- ♦ **Right Scroll Arrow:** Analogous to the **Left Scroll Arrow** described above, only the data is shifted in the other direction, i.e. the window moves *forward* in time.
- ♦ **Horizontal Scroll Box:** This is a white rectangle across the bottom of the window. It represents the portion of the maximum range of data currently displayed in the window. It lies on top of a shaded **Scroll Bar** which, in turn, represents this maximum displayable time range. If this maximum range of data is currently displayed, you won't be able to see the **Scroll Bar** (it and the **Scroll Box** are the same size!).

By clicking on the horizontal **Scroll Box** and dragging it to the left or right, you can shift the horizontal range by an arbitrary amount (within the maximum range displayable). This, of course, only works if your **Scroll Box** is smaller than the **Scroll Bar**.

- ♦ **Horizontal Scroll Bar:** This shaded rectangle (described above) is always partially or fully hidden by the **Scroll Box**. Usually it is visible on either side of the **Scroll Box**. Clicking on one of the visible portions of the **Scroll Bar** (to the right or left of the **Scroll Box**) shifts the horizontal range by exactly one window width in time (later time if you click to the right of the **Scroll Box**, earlier time if to the left). If there is not enough maximum range (i.e. the exposed **Scroll Bar** is smaller than the **Scroll Box**), the maximum range will be expanded to accomodate this shift.

Summarizing (so far): Clicking on an **arrow** shifts the range **one time interval** (day, month, or year; depending on the data type). Dragging the **Scroll Box** shifts the range **an arbitrary amount**. Clicking on the shaded **Scroll Bar** shifts the range **one window width**. These functions do **not** change the *scale* of the data.

- ♦ **<Shift> key:** If one of the keyboard shift keys is pressed while a horizontal scroll operation is performed the price *scale* will be automatically adjusted so that all data in the currently displayed time range will fit within the vertical span of the window.
- ♦ **Vertical Scrolling:** These operations are very analogous to horizontal scrolling, only the price range is shifted rather than the time range. The **arrows** shift the scale up or down one dollar at a time. Pressing one of the shift keys has no effect on vertical scroll operations.

Resizing the Window

These operations allow you to change the size of a GEM window. These procedures are identical to conventional resizing operations used in other GEM applications.

- ♦ **Size Box:** Click on the **Size Box** (lower right corner of the window) and drag the outline of the window to the desired dimensions. Release the left mouse button. This allows the window to be dimensioned to an arbitrary size.
- ♦ **Full Box:** Click on the **Full Box** (upper right corner of the window). The dimensions of the window will expand to the maximum allowable (the full dimensions of the desktop, less the menu bar). Clicking on the **Full Box** again will restore the previous dimensions.

Using either option, the window will be redrawn with the new dimensions and the data will be redisplayed. If overlays (or various types of annotation) had been previously displayed, only the most recently plotted overlay (plus volume data, if specified) will be displayed in the resized window (without the previous annotation).

Moving the Window to a New Position

Again, this operation is performed in the conventional GEM way.

- ♦ **Move Bar:** Click on the shaded bar across the top of the window (the **Move Bar**) and drag the outline of the window to the desired location. Release the left mouse button. The window will be shifted to the new location on the desktop. The entire contents of the window is shifted (e.g. multiple overlays, accumulated annotation, etc. are moved intact).

Tiling the Windows

This operation is most useful when several overlapping windows are currently displayed. Tiling the windows resizes and/or moves them in such a way that they (1) are no longer overlapping and (2) cover the desktop. Simply select **Tile Windows** in the **Plot** menu. *Quick Key*: press <T>.

Selecting a Different Window

Only one window may be manipulated at a time. This is the *active* window. The **Move Bar** on the *active* window is always shaded. The window checked in the **Select** menu is the *selected* window. The *active* window is different from the *selected* window only when the *selected* window is unassigned (not yet opened). Anyway, how *is* a different window selected? Three ways:

- ♦ **Click on the desired window**: This method is possible only if it is (partially) exposed. Clicking on the *active* window has no effect (even if it is not *selected*).
- ♦ **Press the desired Quick Key**: Press the <A>, , <C>, or <D> key to select the window corresponding to SIS A, SIS B, SIS C, or SIS D, respectively.
- ♦ **Use the Select Menu**: Simply click on the desired SIS in the **Select** menu. The *selected* SIS has a check beside it in this menu.

The latter two options may be used to select an SIS which is not yet assigned. If it *is* assigned, the corresponding window will become active and will be "brought to the top" if partially or fully hidden. All subsequent SIS-dependent operations will use the data in this, the *selected*, SIS.

Changing the Scale

Zooming

This operation allows you to change both the horizontal time scale and vertical price scale so that a specific region of data is displayed within the SIS window.

To define a new time/price region first select the **Zoom** item in the **Plot** menu (*Quick Key*: press <Z>). Then use the mouse to move the crosshair cursor to the upper left corner of the desired region. Press the left mouse button and drag the expanding rectangle (the so-called "rubber-band") to the lower right corner of the desired region. Finally, release the left mouse button. The SIS data in this rectangle will then be displayed in the existing window.

The upper left point defines the *upper* edge (maximum price) and *left* edge (earliest time) for the new region. Analogously, the lower right point defines the lower edge (minimum price) and *right* edge (latest time) for the new region. These points *need not* be over the current window; they may be anywhere on the desktop. The time and price they define, however, are determined from the window's existing time/price scale. For example, if you wish to expand the scale greatly (e.g. span a long period of time and/or a wider price range) you should first make the window small (using the **Size Box**, page 44) and/or reposition it on the desktop (using the **Move Bar**, page 44), then **Zoom** to define a rectangle larger than the dimensions of the current window.

Zoom does not change the size of the window, it only changes the range of data that is displayed within the window.

Display Full Range

Unlike **Zoom**, which allows you to select an arbitrary scale, this operation defines a specific scale which allows all the current SIS data to be displayed in the current SIS window. This is the same default scale used when the window is initially opened. Several useful purposes of this operation are worth noting:

- ◆ After zooming in on a small portion of the SIS, this operation provides a convenient means for "zooming back out" to get all the data displayed again.
- ◆ After some *Stalk the Market* activity you may have cluttered up the window with a lot of annotation you no longer want. This operation will redisplay the SIS without the annotation. (Clicking on the **Size Box** will do the same thing, without changing the scale.)

Simply select the **Display Full Range** item in the **Plot** menu. *Quick Key:* press <F> (**Display Full Range**).

Display Maximum Scale (Overrange)

This operation is very similar to the **Display Full Range** operation just described. The specific scale used here, though, is the maximum normally available: the time scale extends from the date of the earliest SIS point with a span of 150% (one and one half times) the SIS time range (the time elapsed between the first and last SIS points). The price scale extends from zero dollars to 125% of the maximum price in the SIS. (These scales can be expanded further using **Zoom** or the **Scroll Bars**.)

To display this expanded scale, simply select **Display Overrange** in the **Plot** menu. *Quick Key:* press <X> (eXtra range).

Notice that the **Scroll Boxes** have the same size as the **Scroll Bars** (which are now completely hidden) after this operation.

Synchronized Scaling

When comparing the time/price behavior of different stocks or utilizing several windows for different displays of the same stock, it is often desirable to use the same time interval for each window. *Stalk the Market* provides an easy way for doing this: simply select **Synchronize Displays** in the **Plot** menu. This menu item will thereafter be checked until it is again selected (disabling the synchronized scaling).

When enabled, all the background (unselected) windows will be redisplayed so that the time scale is the same as that of the selected window. *The price scales will not be altered.*

Any subsequent operation which changes the time scale or range of the selected window will cause *all* windows to be adjusted accordingly. These redisplay operations can be rather slow (since all windows are affected). Therefore, it is recommended that this option be enabled only when time synchronization is important.

Scale and range changes that occur during the simulations (see page 135) are *not* applied to the background windows, even when synchronized scaling is enabled.

Changing Display Parameters

While the Window and Scaling operations allow you to resize and reposition the SIS windows and adjust how much data is displayed in the window, the *Display Parameters* allow you to change the appearance of the data in the selected window. These parameters are changed by interaction with the Modify Parameters dialog box.

Activate the Modify Parameters dialog box by selecting **Modify Parameters...** in the **Plot** menu (*Quick Key*: press <M>). The dialog box will appear with the current parameters displayed. One or more of the parameters can be modified:

Data Type

This parameter determines whether high/low bars or only the high, low, or closing prices are to be displayed. Selecting **High**, **Low**, or **Close** results in a "line" plot which connects the corresponding SIS points. If **Hi/Lo** is selected, a vertical bar connecting the high and low price is drawn at each SIS point. The selection is changed by simply clicking on the current selection. You may need to click on the selection several times to cycle through to the desired one.

Data Color (medium resolution only)

As you might expect, this parameter determines the color of the lines or bars (described above). Simply click on the colored box until the desired color is displayed. Normally, only black, red, and blue are available. These colors can be changed through the Control Panel if you have it installed as a desk accessory. If you are using a monochrome monitor, this parameter cannot be changed.

Plot Grid

If this parameter is set to **Yes** a graph-paper-like grid will be superimposed on the display. Simply click on the current selection to change it. A grid is not permitted when **Overlay?** is **Yes**. (A grid may be included on the original unoverlayed display. It will not be removed when the overlay is added.)

Plot Volume

If this parameter is set to **Yes** the time/volume-traded data will be displayed with the time/price data. This data is displayed as vertical bars across the bottom of the window. The lengths of these bars are proportional to the volume traded during the corresponding time interval (day, week, or month). The actual numerical value of the volume traded (in thousands of shares) can be displayed using, for example, **View Single Days** (see page 59).

Overlay

If this parameter is set to **Yes** the previous display will not be removed before the new one is added. Simply click on the current selection to change it. Multiple overlays are constructed simply by setting this parameter to **Yes** each time you change the parameters to generate the new overlay. As mentioned above, **Plot Grid?** is always **No** when **Overlay?** is **Yes**.

Memo

This is a text field which is displayed near the top of the SIS window in the *Information Line*. To enter some annotation (e.g. "Atari Corporation Stock History"), first click on the existing text (it may be blank). A thin vertical line cursor will appear at the beginning of the field (or at the end of the existing text, if there is any). Type in your annotation (erase existing annotation by pressing the <Esc> key). The <Backspace>, <Delete>, and left and right arrow

keys may be used for editing purposes. *Important:* type a <Return> when done entering the text (otherwise, the dialog box buttons will remain inactive!).

Plot

The dialog is terminated and the current SIS is redisplayed using the new parameters. If **Overlay?** is **Yes** the previous display will not be erased before the new one is drawn. The Data Type, Data Color, Plot Grid, and Memo parameters are all included in the SIS when it is saved to disk (see page 52).

Cancel

The dialog is terminated without any changes in the display parameters.

After a window is resized (e.g. using **Tile Windows** or the **Size Box**), only the most recent set of parameters will be used to redisplay the SIS data. This means that if you have overlaid displays, all the "underlying" displays will not be redrawn when the window is reconstructed. However, *moving* the window to a new location will not affect its contents.

CLOSING A STOCK INFORMATION STRUCTURE

During the course of a Stalk the Market session, the SIS is often changed: data is edited, the permanent ledger is updated, VTLs or TLLs are added, simulation tuning parameters are changed, etc. None of these changes is permanent until the SIS is saved (stored back into a Stock Information File on disk). Several alternatives are available for closing and/or saving an SIS.

Save and Close an SIS

The selected SIS is written to disk as an SIF, the corresponding Permanent Ledger is written into its Ledger File on disk, the active SIS window is removed from the desktop, and the SIS becomes unassigned:

1. Select **Close...** from the **File** menu or click on the **Close Box** (upper left corner of the active window). *Quick Key:* press <F9>.
2. A dialog box will appear. Click on **Save**. If you have changed your mind about closing this SIS, click on **Cancel**.

Close an SIS without Saving

The active SIS window is removed from the desktop and the SIS becomes unassigned. No changes are made to the disk files (SIF or Ledger File):

1. Select **Close...** from the **File** menu or click on the **Close Box** (upper left corner of the active window). *Quick Key:* press <F9>.
2. A dialog box will appear. Click on **Drop**. If you have changed your mind about closing this SIS, click on **Cancel**. If you have decided to save the SIS after all, click on **Save**.

Save an SIS without Closing

The selected SIS is written to disk as an SIF and the corresponding Permanent Ledger is written into its Ledger File on disk, but the active SIS is left open for additional manipulation. Simply select **Save** from the **File** menu. *Quick Key:* press <S>.

Save and Close all Open SISs (Clear the Desktop)

All open SISs and Permanent Ledgers are stored to disk, the corresponding SIS windows are removed from the desktop, and all SISs become unassigned. Simply select **Clear (Save All)** from the **File** menu. *Quick Key:* press <F8>.

LEAVING STALK THE MARKET

When finished with your *Stalk the Market* session, you may want to return to the GEM desktop to run other applications.

Simply select **Quit** from the **File** menu. *Quick Keys:* press <Q> or <F10>.

If any SISs are open when you select this option, you will be confronted with an Alert Box asking if you really want to Quit. If you really do, all SIS windows will be closed **without** saving the SISs or Permanent Ledgers to disk.

PRINTING

Stalk the Market provides numerous opportunities for printing various data and results. Most printing operations are initiated from the relevant dialog box (e.g. there is a **Print** button in the Quotation Ledger dialog box to print the contents of that ledger). The various print options available throughout *Stalk the Market* are not described here but rather in the *Reference* section which describes what's being printed.

All *Stalk the Market* print operations involve only unenhanced text data so no special printer drivers are required. Hard copies of the monitor display can be generated using the conventional <Alternate-Help> keystroke (public domain programs are available which reconfigure this operation for various non-standard printers). Also, *Stalk the Market* provides a means for creating DEGAS compatible picture files of most *Stalk the Market* displays.

Normally a print operation directs the data to the printer attached to your Atari ST's parallel (printer) port. Alternatively, you may direct the data to a disk file (say, if you don't have a printer) or to your Atari ST's serial (modem) port. The procedures for doing this are described in this section.

USING YOUR SYSTEM'S PRINTER

If your printer is connected to the parallel (printer) port on the back of your Atari ST and is turned on and "on-line" before you enter Stalk the Market, then any print operation will, by default, send the data to your printer. If not, then you must manually establish your printer as the output device.

1. First, make sure your printer is connected, turned on, and "on-line."
2. Drop down the **File** menu and inspect the **Print to...** menu item. If it is displayed as **Print to: PRINTER...**, then nothing else needs to be done. Otherwise (if it reads **Print to: FILE...** or **Print to: MODEM...**), select this menu item.
3. A dialog box will appear. If the printer is properly connected and ready to receive data (turned on and "on-line") then the **Printer** button will be enabled and you may click on it to select the printer as the output device. If not, the **Printer** button will be disabled (**Printer** will be in grey rather than black and can't be selected). If **Printer** is disabled, make sure your printer is connected, its power is on, and it's "on-line." Notice that if you turn your printer off (or take it "off-line") while this dialog box is displayed, the **Printer** button will immediately become disabled.

NOTE: If you have a print spooler installed, the **Printer** button will always be enabled, regardless of the status of your printer.

4. Click on **Exit** to complete this specification. If you change your mind, click on **Cancel** instead to revert to the former output device.
5. (Optional) Check the **File** menu to verify that the **Print to...** item now reads **Print to: PRINTER....**

"PRINTING" TO A DISK FILE

Print operations can be directed to a disk file. This allows you to use the "printed" data later on (e.g. reformat it using your favorite word processor or combine it with other data). "Printed" data will accumulate in the default or designated file until the filename is changed.

1. Select **Print to...** from the **File** menu.
2. A dialog box will appear. Click on the **File** button (across the top of the filename).
3. (Optional) Edit the filename if desired. *Stalk the Market* determines the default name when the program is started. *Stalk the Market will not use a name that already exists in the disk directory (i.e., previously created print files will not be overwritten).*

NOTE: If you specify a file that already exists, subsequent printed data will be *appended* to this file.

4. Click on **Exit** to complete the specification. If you change your mind, click on **Cancel** instead to revert to the former output device.
5. (Optional) Check the **File** menu to verify that the **Print to...** item now reads **Print to: FILE....**

NOTE: If no printer is "on-line," this option will be automatically selected.

"PRINTING" TO THE MODEM PORT

*Printing operations can also be directed to your Atari ST's serial (modem) port. The hardware attached to this port may be a modem, serial printer, or other serial device. Stalk the Market does not provide any means for configuring this port for printing operations, but you may use the **Set RS232 Config.** desk accessory (part of Atari's **CONTROL.ACC**) if it is installed.*

1. Select **Print to...** from the **File** menu.
2. A dialog box will appear. Click on the **Modem** button.
3. Click on **Exit** to complete the specification. If you change your mind, click on **Cancel** instead to revert to the former output device.
4. (Optional) Check the **File** menu to verify that the **Print to...** item now reads **Print to: MODEM...**

SAVING THE SCREEN DISPLAY TO A DEGAS PICTURE FILE

Most Stalk the Market displays can be recorded into DEGAS format files for future manipulation or display by other programs.

There is no menu item for this operation. Simply press **<Shift-H>** (think of **<Alternate-Help>** or **Hudson**) when you desire to save the current display. An Alert Box will give you the name of the file in which the display will be stored. *Stalk the Market* checks to make sure this file does not already exist. However, you may click on **Cancel** if you change your mind. If you click on **Copy** the file will be created. The arrow mouse cursor will be included in the picture file (place the cursor where you want it in the picture, then use the **<Return>** key to select **Copy**). Beware that each DEGAS picture file requires 32,034 bytes of disk space.

THE QUOTE MENU

Selections available in the **Quote** menu initiate various operations which allow you to examine, edit and manipulate historical time/price data contained in the active SIS. In addition, a facility is provided for setting up and selecting commission schedules. The various capabilities are summarized briefly below and described in detail in the following sections.

- ♦ Display, as text, date/price information for selected dates currently displayed graphically. See **View Single Days** (page 59).
- ♦ Print date/price information for specific dates (single days or cumulative weeks or months). See **Print Single Days** (page 62).
- ♦ Print a range of date/price information. See **Print Range of Days** (page 63).
- ♦ Establish a hypothetical buy and/or sell transaction at some historical date. See **View Single Days** (page 59), **Gain/Loss Calculator** (page 75), or **Buy & Sell** (page 80).
- ♦ Examine the results of a hypothetical buy transaction followed by a later sell transaction. See **Gain/Loss Calculator** (page 75).
- ♦ Display and manipulate a ledger for multiple hypothetical buy and sell transactions. See **Gain/Loss Calculator** (page 75 and 82).
- ♦ Enter, edit and/or select a commission schedule. See **Edit Commission Schedules** (page 69).
- ♦ Edit and/or delete date/price data contained in the active SIS. See **Edit SIS Data** (page 64).

You may want to refer to the *Index* for other references to these capabilities.

VIEW SINGLE DAYS

*Time/price stock information is, by default, displayed graphically as high/low price bars. Using the **Modify Parameters...** in the **Plot** menu you can change to connected-point plots through high, low, or closing prices. **View Single Days** allows a display of an individual date's information (date; high, low, and closing price; and volume traded), displayed as text, superimposed on the graphical display in the active window. While displaying this date/price information, hypothetical **buy** or **sell** transactions may be selected for future manipulation using the **Gain/Loss Calculator**.*

1. Drop down the **Quote** menu and select the first item, **View Single Days**. ("Days" should be taken loosely; this actually refers to the annotation of single SIS points; days, weeks, or months.) *Quick Key:* press <V>.
2. If it isn't there already, use the mouse to move the arrow cursor over the active window. When over the window the cursor will switch to a pointing hand.
3. The date/price/volume information will be *dynamically* displayed for the SIS point nearest, but to the left of, the cursor. As you move the cursor across the window (from left to right and back) different annotations will be displayed. Note that the price bar for the selected date is highlighted as well. If you look closely you'll also see that the closing price on the bar is also highlighted. For those of you without 20/5 vision, the underline of the date also coincides (in its vertical location) with the closing price. Finally, notice that the vertical position of the cursor does not have any effect (as long as you stay within the active window).

4. **Selecting a Buy Point** (optional): When the desired date is selected (using Step 3), press and release the left mouse button (being careful not to move the cursor to another point). *Quick Key:* press . The Save Buy/Sell Point dialog box will appear. Notice the number of shares traded (**# Shares**). The value displayed is based on available (hypothetical) cash (if you have previously performed a *Sell Transaction*) or is, by default, 50 shares. This value may be edited by clicking on the number displayed, pressing <Esc> and typing in the desired value followed by a <Return>. Now you have several options:

- ♦ Click on **Save** to record this date and *closing* price as a *Buy Transaction*. The dialog box will disappear and the selected date will be labeled as a Buy. This annotation will be removed when the active window is resized or the data is scrolled, but this hypothetical buy point will, nonetheless, remain recorded (see **Gain/Loss Calculator**, page 75).

NOTE: If you have selected an "Other" price (see below), *Stalk the Market* will not let you save this price if it does not fall between the date's high and low.

- ♦ To select the High or Low price as the actual buy price, click on the **High** or **Low** button, respectively. You may change your mind and click on another choice as many times as you like. Nothing becomes "permanent" until you click on **Save**.
- ♦ To select some price other than the High, Low, or Close, click on **Other**. This will enable the "Other" price for editing. Its default value is the average of the High and Low. To edit, click on the "other" price, type <Esc> to clear the price and type in the desired value, followed by a <Return>. The price may be entered in fractional form (e.g. "28 1/8") or in

decimal form (e.g. "28.125"). After pressing <Return>, the entered price will be converted to the nearest 1/8 dollar and displayed in fractional form.

NOTE: *Stalk the Market* always rounds SIS stock prices to the nearest 1/8 dollar. However, ledger stock prices are stored to the nearest \$0.001.

- ◆ This data may be saved as a *Sell* point rather than a *Buy* point by clicking on **Sell**. Again, nothing's "permanent" until you click on **Save**.
 - ◆ If you decide you don't want this date to be either a *Buy* or *Sell* point, click on **Cancel**.
5. **Selecting a Sell Point** (optional): Follow the same procedure as just described for selecting a *Buy*, only press and release the *right* mouse button (instead of the *left*) to activate the Save Buy/Sell Point dialog box. *Quick Key*: press <S>. The default # **Shares** is the total currently owned (hypothetically), as established by previous buy point(s).
 6. When done **Viewing Single Days**, use the mouse to move the cursor outside the active window (to the **Done** annotation on the Menu Bar). Then press and release either mouse button. The **Quote** menu title should then become unhighlighted, completing this operation.
- NOTE: Any buy and sell points selected using these **Quote** options will not be stored permanently (in the SIF or Ledger File) under *any* circumstances. They will, however, remain available until the SIS is closed. The **Analyze** menu's Buy/Sell options should be used to select permanent buy and sell points.

PRINT SINGLE DAYS

*The annotation described above for **View Single Days** can be printed in tabular form on the selected "Print" device (see Printing, page 54) using this menu selection. This data includes the date; the high, low, and closing price; and the volume traded during the period (day, week, or month), as thousands of shares.*

1. Drop down the **Quote** menu and select **Print Single Days**. *Quick Key:* press <P>.

Steps 2 and 3 below are essentially identical to those steps for **View Single Days** described above.

2. If it isn't already, use the mouse to move the arrow cursor over the active window. When over the window the cursor will switch to a pointing hand.
3. The date/price information will be *dynamically* displayed for the SIS point nearest, but to the left of, the cursor. As you move the cursor across the window (from left to right and back) different annotations will be displayed.
4. Select the date for which you wish to print the data. When annotated, press and release either the left or right mouse button to "print" the data. *Quick Key:* press <P>. Repeat this step for other points as desired.
5. When done, move the cursor off the active window (to **Done** on the Menu Bar) and press and release either button to exit. The **Quote** menu title should become unhighlighted, completing this operation.

PRINT RANGE OF DAYS

*A range of consecutive SIS data can be efficiently "printed" using this operation. The data is printed in the same format as for **Print Single Days**, described above.*

1. Drop down the **Quote** menu and select **Print Range of Days**. *Quick Key: press <R>.*

Steps 2 and 3 below are essentially identical to those steps for **View Single Days** described above.

2. If it isn't already, use the mouse to move the arrow cursor over the active window. When over the window the cursor will switch to a crosshair.
3. The date/price information will be *dynamically* displayed for the SIS point nearest, but to the left of, the cursor. As you move the cursor across the window (from left to right and back) different annotations will be displayed.
4. Position the cursor to the immediate left of the earliest (leftmost) point for the range of interest. Press the left mouse button and *drag* the rubberband to span the desired range of points (this procedure is similar to the **Zoom** operation, page 46). Then release the button to print the table of data for the enclosed range. The annotation will step through the range as data is printed. The vertical dimension of the rubberband is ignored by this operation. This step can be repeated for additional ranges.
5. When done, move the cursor off the active window (to **Done** on the Menu Bar) and press and release either button to exit. The **Quote** menu title should become unhighlighted, completing this operation.

EDIT SIS DATA

This operation allows the contents (dates; high, low, and closing prices; volume traded) of the active SIS to be modified. Specific SIS points may be deleted. New SIS points may be manually inserted or added. These operations are rarely required unless:

- ◆ *You want to "change history," or*
- ◆ *You want to fix data improperly downloaded or inserted into the SIF, or*
- ◆ *You do not have access to Dow Jones News/Retrieval via modem (for automatic downloading and SIS updating). In this case **Edit SIS Data...** is the method by which new stock information is added (by hand) to the SIS.*

***Edit SIS Data...** also provides a means for adjusting prices and volumes for stock splits.*

*If you are manually creating a new SIF you must use **Create...** in the **File** menu (see page 149), then load an available SIS with this SIF (using **Open...**). Only then can **Edit SIS Data...** be used to update the stock information.*

1. Make sure the desired SIS is active (check the **Select** menu).
2. If you intend to change historical data (modify or add points prior to the last one currently stored or adjust for a stock split), you must first unprotect the SIS (see page 94).
3. Drop down the **Quote** menu and select **Edit SIS Data....**
Quick Key: press <E>. The Edit SIS dialog box will appear. Several general comments on the contents of this dialog box:

- ◆ The wide "data window" in the center of the dialog box contains the table of SIS data. Data for five SIS points can be displayed concurrently. The center line (third out of five) is highlighted. Only the highlighted data (the third line) can be edited. A vertical **Scroll Box**, **Scroll Bar**, and **Scroll Arrows** are adjacent to the data window. These items are used to get the desired SIS point into the third line of the data window for editing.
- ◆ A narrower "plot window" below the data window graphically shows where the highlighted SIS point is located within the whole SIS. It may be used to change the highlighted point.
- ◆ Several buttons to the left of and above the plot window are used to initiate insertions, deletions, or stock split adjustments. They are disabled (lettering is grey rather than black) when these operations are not allowed.
- ◆ The **-> SIS** is an "Exit" button which transfers the modifications into the active SIS.

NOTE: The modifications will not be permanent until the SIS is actually saved to disk (using **Save SIS** or **Close SIS...** from the **File** menu or the active window's **Close Box**).

- ◆ The SIS editing process can be canceled at any time by using the **Cancel** button. None of the modifications will be transferred to the SIS.
4. Perform the desired modifications to the SIS (again, these will not be retained unless the **-> SIS** button is selected and will not be saved to disk until the SIS is saved):
- ◆ **Select the desired SIS point for editing:** The data for the desired point must be in the center (highlighted) line in the data window. Several methods are

available for accomplishing this (also, see the middle of page 67 for a clever way to select a specific date, *if the SIS is unprotected*):

- ◆ The table can be scrolled up or down, *one point at a time*, by clicking on the up or down vertical **Scroll Arrow** to the left of the data window.
- ◆ The table can be scrolled up or down, *five points at a time*, by clicking on the **Scroll Bar** above or below, respectively, the solid **Scroll Box**.
- ◆ The table can be scrolled up or down, *by an arbitrary amount*, by pressing the left mouse button when the cursor is over the **Scroll Box** and dragging the outline of the box to the desired position within the table.
- ◆ Using the *left* mouse button, click on the desired point in the plot window. The table will scroll to (near) this point.
- ◆ If the data for the desired SIS point is currently displayed in the data window, but is *not* highlighted (i.e. in any but the 3rd line), that line may be selected by clicking on it.
- ◆ **Edit the desired values:** Click on the value of interest to select it for editing. *Only highlighted values may be edited.* The "edit cursor" (a thin vertical line) should appear to the right of the selected value.
- ◆ Standard GEM editing functions may be used: **<Esc>** to clear the value, **<Backspace>**, **<Delete>**, and left and right cursor keys to selectively edit the current value. **<Tab>** may be used to move to the next editable value.
- ◆ You must always complete the editing by pressing **<Return>**.

- ◆ Dates must always be entered in the mm/dd/yy format. Invalid dates will not be accepted (e.g. 2/30/87 will be converted to 3/2/87 while 3-2-87 will be replaced by the day after the last SIS point).
- ◆ Stock prices can be entered in decimal (28.125) or fractional (28 1/8) format. The entered value will be rounded to the nearest 1/8 dollar.
- ◆ **Insert a new SIS point:** This operation is possible only if the last SIS point is currently highlighted or the SIS is unprotected.
 - ◆ Click on the **Insert** button. This button is inactive if insertion is not allowed (the lettering is grey).
 - ◆ A new SIS point will be added in the data window as the highlighted item. Generally, the default date will be the day following the previously highlighted item. The prices and volume will be blank (unless the date matches an existing SIS point, in which case that point will be highlighted; i.e. no actual insertion is made -- a maximum of one SIS point is permitted per day).
 - ◆ The default values can then be modified as described above.
- ◆ **Delete an existing SIS point:** Like **Insert**, this operation is possible only if the last SIS point is currently highlighted or the SIS is unprotected.
 - ◆ Highlight the desired SIS point as described above.
 - ◆ Click on the **Delete** button. This button is inactive if deletion is not allowed (the lettering is grey). An Alert Box will appear asking for a confirmation. Click on **I'm Sure** if you really want to delete the highlighted SIS point.

NOTE: If you still delete a point you really didn't want to, you can click on **Cancel** to abort this editing session or (later on) close this SIS without saving. Of course, if you do this, any other SIS or (by the latter method) ledger updates will not be saved to disk either. You can then reload the SIS from disk to get a version of the SIS which still contains the point you deleted.

◆ **Adjust for stock split**

- ◆ Position the list to highlight the day *before* the stock split (the last day to be adjusted).
- ◆ Click on the **1 for 1** button until the desired split ratio is selected (the button label will change).
- ◆ Click on **Calc** to initiate the adjustment. An Alert Box will confirm your intentions. Adjusted prices will be rounded to the nearest 1/8 dollar. Any corresponding Valid Trend Line and Trailing Loss Level prices will also be adjusted. Note, however, that the shares owned (if any), as recorded in the Permanent Ledger (see page 82), *will not be adjusted*.

NOTE: Exercise caution in adjusting weekly or monthly data where the stock split occurred mid-week or mid-month. The composite low may be the split low while the composite high may be the *unsplit* high. To avoid this, perform the **Convert...** function (see page 158) *after* the daily SIS has been adjusted. Then open the weekly or monthly SIF and adjust the earlier months or weeks. (DJN/R adjusts their monthly data for the month in which the split occurred).

5. Repeat the alternatives in Step 4 as necessary to complete the desired modifications.

NOTE: As you move around in the SIS making modifications, the data in the dialog box's plot window will be dynamically updated. If you wish to redisplay this window (rescaling the SIS so it all fits in the window), simply use the <P> *Quick Key*.

6. When all modifications are complete, click on the -> **SIS** button to transfer the modifications into the SIS and to close the dialog box. Remember, you must also save the SIS to disk before any modifications really become "permanent." To close the dialog box without transferring your modifications, click on the **Cancel** button.

EDIT COMMISSION SCHEDULES

Every stock transaction, both purchases and sales, involves a commission charged by the broker performing the transaction. To accurately track the success or failure of financial transaction timing, it is important to include these charges as they can significantly influence the realized profits or losses. Stalk the Market automatically includes the commission charges in all its calculations so you normally don't have to worry about the mechanics of how the commissions are applied. Various operations within Stalk the Market (such as the ledgers and Gain/Loss Calculator) will show the effects of the commission charges on your income.

Edit Commission Data... allows you to set up and modify a *Commission Schedule* to match that of your broker. *Stalk the Market* actually allows you to set up and save five different schedules. One of these schedules is selected and then "attached" to the active SIS. This selection is included in the SIS (and SIF) so that all subsequent commissions calculated for this stock will use this schedule. Different stocks may use different commission schedules.

Stalk the Market can accommodate two different types of schedules:

Share Price Based

This commission type is calculated as a dollar amount per share traded (usually several cents). This product is then added to a base commission to arrive at the total commission charge for the transaction.

EXAMPLE: Suppose the per share commission is \$0.04 (4 cents) and the base commission is \$30.00. If you trade 50 shares the commission charged would be $\$30.00 + (50 \times \$0.04)$ or \$32.00.

Notice that this commission calculation is independent of the stock price. However, the per share rate typically depends on the stock price involved.

Principal Based

This commission type is calculated as a percentage of the transaction principal (shares traded x share price) plus some base commission that depends on the size of the principal.

EXAMPLE: You want to trade 50 shares of stock at \$25.00 per share. The principal is $50 \times \$25.00$ or \$1250.00. If the base commission for this principal is \$19.00 and the percentage is 1.60% then the total commission charged would be \$19.00 plus 1.60% of \$1250.00 or \$39.00. If this were a stock purchase then you would have to pay \$1289.00 (principal plus commission). If it were a sale then you would receive \$1211.00 (principal minus commission).

There is usually a *minimum commission* charged regardless of the above calculation. This minimum commission would be charged *instead* of a lower calculated commission. It is *not* added to calculated commissions higher than the minimum.

1. Click on **Edit Commission Data...** from the **Quote** menu. *Quick Key:* press <K> (Kommission). Notice that this menu item is always enabled (even when no SIS is loaded). The Commission Schedule dialog box will appear. You may now:

- ◆ Select which of the five available commission schedules is to be applied to the active SIS.
- ◆ Select which type of commission schedule is desired.
- ◆ Enter and modify the selected schedule.
- ◆ Zero out the selected schedule.
- ◆ Perform sample commission calculations.
- ◆ Enter a title for the selected schedule.
- ◆ Print the selected schedule.
- ◆ Save all the schedules to disk.

Here is how you do each of these:

- ◆ **Select Schedule:** Simply click on the number of the schedule you wish to select. Before actually selecting that schedule, *Stalk the Market* will check if you have made changes to the current schedule without saving them (see **Save** below). If so, an Alert Box will give you a chance to save this schedule before selecting the new one. Once selected, the dialog box will be loaded with the new schedule's data.

- ♦ **Select Type:** The current schedule type is displayed in the button just below the **Select Type** title. To change to the other type, simply click on this button. (You can always change back by clicking on it again.) The format of the main schedule data box will change to reflect the data required for the selected type. The **Base/Minimum Commission** title and the format of the **Sample Calculation** will also change.

NOTE: When you change commission types the schedule data will be maintained, but it probably will not make much sense for the new type and will require massive editing (or zeroing). The data is maintained in this way so that you can switch back to the original type if you so desire without having to reenter the schedule data.

- ♦ **Enter and/or Modify Schedule Data:** Simply click on the value you wish to change and modify it using the standard GEM editing options. You may <Tab> to adjacent values rather than click on them individually. When done editing, type a <Return> to process your modifications. The first column of numbers in the main schedule data box is not editable. These numbers are calculated for you from the values in the preceding row of the second column (which you may edit). The **Base/Minimum Commission** value is, of course, editable.

NOTE: For the **Per Share** schedule, stock prices must be entered as decimal numbers (10.50), not as fractions (10 1/2).

- ◆ **Zero:** Clicking on this button will zero all the data in the selected schedule. If you do this by mistake, you can retrieve the previous data by selecting another schedule (without saving the zeroed schedule!) and then selecting the schedule you inadvertently wiped out. The original data should be restored. You could also **Cancel** out of this dialog completely, but you would also lose all other modifications.
- ◆ **Sample Calculation:** This is a "convenience feature" which allows you to calculate commissions for specific share prices and number of shares (**Per Share** commission) or specific principals (**Principal** commission). Simply click on the value you want to change and edit it. Type a **<Return>** to perform the calculation. This data is for informational purposes only; it is not saved with the actual schedule data.
- ◆ **Commission Schedule Title:** Simply click on the current title to the right of the Commission Schedule dialog box title. Edit the title as desired and type a **<Return>** when done.
- ◆ **Print:** Simply click on **Print**. The selected commission schedule will be "printed" to the current print device (see *Printing*, page 54).
- ◆ **Save:** First, clicking on this button *does not save the commission schedules to disk*. All it does is copy the currently displayed commission schedule data into the currently selected commission schedule (all in memory). You *must* click on **Save** to preserve any modifications you have made to the current schedule. Fortunately, you will be reminded of this when you switch to another schedule without saving the previous one.

- ◆ **Exit:** As the name implies, this is how you complete the editing operation. Clicking on this button will:
 - ◆ *Not Save* the currently displayed data into the selected schedule. If the current schedule has been modified, an Alert Box will allow you to cancel the **Exit** function (so that you can **Save** the schedule before **Exiting**).
 - ◆ "Attach" the currently selected schedule to the active SIS (if any). All subsequent calculations for this SIS will use this schedule for any commission calculations. This "index" is stored in the SIS so this schedule will also be used when you work with this SIF in the future.

NOTE: This "index" is only recorded into the SIS, not onto disk. To save it permanently you must save the SIS onto disk (as an SIF).

- ◆ Write all the commission schedules to disk for "permanent" storage. This data is kept separate (in a file named **STOCKS.COM**) from the SIFs and Ledger Files.
 - ◆ Remove the dialog box, completing the **Edit Commission Data...** operation.
2. You may click on **Cancel** at any time to bail out of the editing process. The commission schedules and SIS "attachment" (see above) will be left as they were when you initiated the **Edit Commission Data...** operation.

A couple final pointers:

- ◆ When you have several SISs loaded and you are moving between them you do not need to manually switch between commission schedules (if they are different). *Stalk the Market* does this for you automatically as long as you, at some point in the past, "attached" the desired schedule to each SIF.

- ◆ If you want to perform transactions without commission charges, simply set up a schedule with all zeros and attach this to the SIS of interest.

THE GAIN/LOSS CALCULATOR

Perhaps the simplest stock transaction is a stock purchase at some point in time followed by a sale at some future point in time when the stock price is, hopefully, higher; thus producing a net monetary gain.

The **Gain/Loss Calculator** allows you to create (from real historical stock data) and examine individual hypothetical buy and sell transaction pairs. Various results of these transaction pairs are calculated and displayed:

- ◆ Elapsed days between the purchase and sale.
- ◆ Investment cost (number of shares times share purchase price plus commission).
- ◆ Value after sale (number of shares times share sale price minus commission).
- ◆ Total commission charge (sum of purchase and sale commission).
- ◆ Net income (absolute dollars and as percentage of investment).
- ◆ Annualized rate of return (income as a percentage of investment if this performance were to last for one year).

Through access to a special "volatile" ledger, the whole set of hypothetical buy and sell transactions can be examined and manipulated and cumulative results can be displayed and printed.

1. Click on **Gain/Loss Calculator...** from the **Quote** menu. *Quick Key:* press <G>. The Gain/Loss Calculator dialog box will appear. Here's an explanation of the various components of this rather complex dialog box:

- ◆ **Results Box:** The results of the various calculations (mentioned above) are shown here. These values are recalculated dynamically as the selected buy or sell point is changed or the **Shares Traded** value is changed. Only the **Shares Traded** is editable.
- ◆ **Buy Transaction List:** The accumulation of hypothetical buy points is listed in this box located in the upper right corner. The highlighted transaction is the "selected" buy point. This selection can be changed by manipulating the **Scroll Arrows, Box and Bar** (see **Edit SIS Data**, page 66, for an explanation of how these items are used). Buy points later than the currently selected sell point cannot be selected.

NOTE: Unlike **Edit SIS Data**, an individual row of the list cannot be selected by clicking on that row. Here, instead, just use the **Up or Down Scroll Arrow**.

- ◆ **Sell Transaction List:** This list, analogous to the Buy Transaction List described above, is located directly below the Buy list. Sell points *earlier* than the currently selected buy point cannot be selected.
- ◆ **Mini-Window Graph:** A high/low bar graph of the active SIS is reproduced here. The time interval spanned by the selected buy and sell date is highlighted in this graph. This highlight dynamically changes as new transaction points are selected. The graph also serves to provide a means for graphically entering new buy-sell pairs (see below). The small buttons to the left of this mini-window rescale the plot or synchronously shift the selected buy-sell pair (again, see below).

- ◆ **Process Buttons:** These larger buttons to the left of the mini-window provide (1) access to the "volatile" ledger, (2) a printout of the **Calculator** results, and (3) exit from the **Calculator**.

From the above descriptions, you should now be able to perform many of the functions available in this dialog box. Some, however, require further explanation:

- ◆ **Shares Traded:** This value is calculated automatically by *Stalk the Market* from the available cash received from the preceeding sell point. The first purchase will be, by default, for 50 shares. A value of zero will be used if the second of two adjacent buy points is currently selected. The number of shares traded may be changed by clicking on the current value and then editing it using standard GEM editing functions. Be sure to type a *<Return>* when done.
- ◆ **Creating New Buy-Sell Transaction Pairs:** This can be accomplished several ways:
 - ◆ Using the **View Single Days** menu item (see page 59), individual buy and sell points may be established. This, of course, must be done before accessing the **Gain/Loss Calculator**. These points will appear in the Buy and Sell lists when the **Gain/Loss Calculator** is accessed.
 - ◆ Once in the **Gain/Loss Calculator**, a new buy-sell transaction pair may be created by, first, moving the cursor over the mini-window graph and placing it just to the left of the desired buy point on the graph. Then press the left mouse button and *drag* the expanding rectangle (rubber-band) down and right to span the desired time interval (the right side of the rectangle should be just to the right of the desired sell point).

Finally, release the mouse button. The selected points will be added to the respective lists, the interval on the graph will be highlighted, and the calculated results for this new buy-sell pair will be displayed.

- ♦ **The Buy & Sell menu item** (page 80) may be used to perform the above pair selection using the full SIS window (instead of the mini-window graph) before the **Gain/Loss Calculator** is accessed.

NOTE: All the buy and sell points created by these various methods are only temporary (i.e. "local" or "volatile"; they will be lost when the SIS is closed). The corresponding ledger will suffer the same fate. Separate sets of temporary buy and sell points are maintained for each open SIS. Don't confuse these temporary data with the *real* buy and sell points and the corresponding ledger, created and maintained through the **Analyze** menu.

- ♦ **Examining the Ledger:** The ledger is accessed simply by clicking on **Ledger**. The capabilities of the Ledger dialog box are described in the section, *The Stalk the Market Ledgers*, page 82.
- ♦ **Printing the Results:** The results for a selected transaction pair may be "printed" to the current print device (see *Printing*, page 54). Simply click on **Print**. The full set of buy and sell data can be printed from the ledger.
- ♦ **Deleting and Editing the Buy and Sell Points:** These functions can be performed from the Ledger dialog box (see above).

- ♦ **Mini-Window Control Buttons:** Four buttons are located to the left of the mini-window graph. Their functions are:
 - ♦ [**<>**] (**Expand**): The graph will be expanded to its full scale (like **Display Full Range**). If already at this scale, nothing happens.
 - ♦ [**><**] (**Close**): Return the scale to the same as the current SIS window.
 - ♦ [**->**] (**Shift Right**): The selected buy and sell points will each be shifted to the next later point. The graph highlight, buy and sell lists, and results will be updated accordingly.
 - ♦ [**<-**] (**Shift Left**): Analogous to the **Shift Right** operation, only the next earlier points are selected.
2. When you are finished experimenting with these hypothetical transactions, click on **Exit**. The buy and sell points you have created will be maintained so you can come back to them later. However, they will be lost once the corresponding SIS is closed.

BUY & SELL

A single buy and sell transaction pair can be selected from the active SIS window and loaded directly into the **Gain/Loss Calculator**.

This operation is essentially identical to the buy-sell selection from the **Gain/Loss Calculator's** mini-window graph, described in the previous section. The only real differences are that only one pair can be selected at a time and the selection is made from the active SIS window rather than the mini-window.

1. Select **Buy & Sell** from the **Quote** menu. *Quick Key:* press <E>.

NOTE: This selection must, of course, be made when no dialog box (including the **Gain/Loss Calculator**) is in use. Menu selections can not be made when dialog boxes are displayed.

2. Use the mouse to move the cursor over the active SIS window (if it isn't there already). The cursor should transform into a crosshair.
3. Place the cursor just to the left of the desired buy point on the graph. Then press the left mouse button and *drag* the expanding rectangle (rubberband) down and right to span the desired time interval (the right side of the rectangle should be just to the *right* of the desired sell point). Finally, release the mouse button. The first and last SIS point contained *within* the horizontal dimension of the rectangle will be designated as a buy-sell transaction pair.

NOTES: (1) The vertical (top-to-bottom) dimension of the expanding rectangle is not used in any way to determine the selected points. Only the left-to-right size and position is used.

- (2) The price used for the transaction is based on how the SIS data is currently graphed. If only high, low, or closing prices are graphed, then that price for the selected date will be used. If high/low bars are graphed, the closing price will be used. In any case, this price may be modified in the "volatile" ledger, accessed from the **Gain/Loss Calculator**.
4. The **Gain/Loss Calculator** will be automatically activated. Notice that the selected buy and sell points have been added to the Transaction Lists and are highlighted.
5. You may now proceed with any of the **Gain/Loss Calculator** functions described in the previous section.

THE STALK THE MARKET LEDGERS

Stalk the Market uses several ledgers to organize a sequence of stock purchase and sale transactions. Each ledger entry, one for each transaction, includes the:

- ◆ Date of the transaction,
- ◆ Type of transaction (buy, sell, deposit, or withdrawal),
- ◆ Share price for the transaction,
- ◆ Number of shares traded,
- ◆ Commission charged, and
- ◆ Cash flow for the transaction.

Stalk the Market provides extensive capabilities for displaying, manipulating, modifying, and printing these ledgers.

Each loaded SIS actually has **three** ledgers associated with it:

- ◆ **Permanent Ledger:** As the name implies this is a *non-volatile* ledger where data for real transactions are recorded. For each Stock Information File there is a corresponding Permanent Ledger *File*. The ledger data in this file is loaded automatically when an SIS is loaded with the SIF data. *Stalk the Market* makes it difficult for you to modify historical Permanent Ledger entries. However, it is easy to modify the current date's transaction(s). These changes are made through various **Analyze** menu selections. Any changes made to the Permanent Ledger are saved to disk when the corresponding SIS is saved.

NOTE: A separate Permanent Ledger File is maintained for each SIF. *Stalk the Market* does not provide any capability for mixing transactions for different stocks into one general ledger.

- ◆ **Quotation Ledger:** This is a volatile ledger where data for transactions established from various **Quote** menu selections are recorded. This ledger is empty when the corresponding SIS is first loaded and is never saved to disk. It remains intact until the SIS is closed. Unlike the Permanent Ledger, historical entries in this ledger may be changed quite easily.
- ◆ **Simulation Ledger:** This is a second volatile ledger which is used to accumulate the transactions created during the **Analyze** menu's **Simulation** operations. This ledger is always empty unless you are currently performing either a manual or automatic simulation (described in the **Analyze** section). Like the Quotation Ledger, it may not be saved to disk. Historical entries in the Simulation Ledger may not be modified during the simulations. They can, however, be manipulated once the simulation is complete.

It should be emphasized that these three ledgers are completely independent; changing one will not affect either of the others in any way.

Transactions are added to the three ledgers in different ways. For example, transactions can be added to the Quotation Ledger through the **View Single Days**, **Buy & Sell**, or **Gain/Loss Calculator** selections in the **Quote** menu. These methods for the different ledgers are described in the pertinent sections of this *Reference* chapter.

How the Ledger dialog box itself is accessed depends on the particular ledger being manipulated:

- ♦ The **Permanent Ledger** can be accessed from
 - ♦ The **Ledger** button in the Transaction Status dialog box.
 - ♦ The **Status...Ledger** selection from the **Analyze** menu.
- ♦ The **Quotation Ledger** can be accessed only from the **Ledger** button in the Gain/Loss Calculator dialog box.
- ♦ The **Simulation Ledger** can be accessed
 - ♦ At the end of **Simulation...Automatic** (selected from the **Analyze** menu).
 - ♦ From the **Ledger** button in the Manual Simulation dialog box.

Other than the distinctions described above, working with any of these ledgers is done in essentially the same way. This section describes how, in general, you can work with any of these ledgers, *once the Ledger dialog box has been accessed.*

First, a description of the features of the Ledger dialog box:

♦ **Transaction Data List**

Up to five ledger entries are displayed at a time in this list. The third (middle) entry is highlighted. This entry is editable (under certain circumstances). The **Scroll Arrows, Box** and **Bar** to the left of the list can be used to scroll the list to highlight another ledger entry. Various functions and calculations displayed within the dialog box are based on the highlighted (selected) ledger entry (and, in most cases, those preceding it).

♦ Editing the Transaction List

The selected ledger entry can be edited in a manner similar to that described for editing SIS data (see **Edit SIS Data**, page 64). The Date, Price, Commission, and Shares can be edited in **Buy** and **Sell** entries. Only the Date and Cash Flow can be edited in **Deposit** or **Withdraw** entries. Under certain circumstances, some of these items may not be editable (e.g. historical entries in a protected Permanent Ledger).

NOTE: A manually entered commission will override the calculation from the commission schedule.

• However, any future **Optimize** (see page 86) will recalculate the commission from the stored schedule.

♦ Results Box

The results of various calculations are displayed here. The **Cash Balance** is the available cash after the selected transaction. The other "figures of merit" are described in the **Gain/Loss Calculator** section (page 75). They are calculated in two different ways:

- ♦ **All Transactions:** These results are based on all the actual transactions up to and including the selected ledger entry.
- ♦ **Static Investments:** These results are based on a single initial investment (the first *Buy* transaction in the ledger) and a single sale (of the number of shares initially invested) on the date of the currently selected ledger entry.

Comparing these two calculation methods is a convenient way to evaluate the possible benefits of transaction timing.

◆ Print Ledger

The contents of the ledger can be printed in two ways:

- ◆ **Window:** Only the (up to five) currently displayed ledger entries are printed. But, in addition, the calculation results (both methods) are also printed.
- ◆ **Whole:** Every ledger entry is printed in tabular form. In addition to the six items in each ledger entry, the running cash balance and cash value are also printed. No other calculation results are printed except for the accumulated commission charge.

◆ Optimize

This function optimizes the purchases (to use all available cash) or sales (to sell all shares owned). This optimization can be applied to the currently selected entry only or to the currently selected and all subsequent entries. This function may be disabled if the (permanent) ledger is protected.

◆ Deposit and Withdraw

These functions allow you to insert ledger entries which, respectively, add cash to or remove cash from the ledger. Cash removed is included in the **Net Income** calculation. Cash added is considered part of the investment (if used for a subsequent stock purchase). *Stalk the Market* always generates a **Deposit** entry for you to cover the ledger's initial buy transaction (generated elsewhere).

◆ Delete

This function removes the selected entry from the ledger. It may be disabled if the ledger is protected.

◆ **Cancel**

You can use this function to bail out of the ledger manipulation without recording any of the changes you might have made.

◆ **Exit**

Selecting this function will complete the ledger manipulation by recording any changes you have made into the selected ledger.

**SELECT THE DESIRED LEDGER ENTRY FOR
EXAMINATION OR MODIFICATION**

The desired ledger entry must be positioned in the center of the **Transaction Data List** (this is the highlighted entry). Several methods are available for accomplishing this:

NOTE: These techniques are identical to those used for scrolling the **Data Window** in the Edit SIS dialog box (see page 66).

- ◆ The table can be scrolled up or down, **one** entry at a time, by clicking on the up or down vertical **Scroll Arrow** to the left of the list.
- ◆ The table can be scrolled up or down, **five** entries at a time, by clicking on the **Scroll Bar** above or below, respectively, the solid **Scroll Box** (the position of the **Scroll Box** within the **Scroll Bar** is based on the position of the currently highlighted item within the whole list).
- ◆ The table can be scrolled up or down, by an **arbitrary** amount, by pressing the left mouse button when the cursor is over the **Scroll Box** and dragging the outline of the box to the desired position within the table (e.g. drag the box to the top of the bar to move to the top of the ledger).

- ◆ If the desired entry is currently displayed, but is not highlighted (i. e. is in the 1st, 2nd, 4th, or 5th line), it may be selected by clicking on that line of the list.

As you scroll through the entries, the investment results will be updated based on the currently selected entry and those preceeding it.

EDIT THE SELECTED LEDGER ENTRY

Click on the desired value in the highlighted entry. The values that may be edited depend on the type of transaction and whether the ledger is protected. In the latter case you will be reminded by an Alert Box.

- ◆ Standard GEM editing functions may be used: <Esc> to clear the value, <Backspace>, <Delete>, and left and right cursor keys to selectively edit the current value. Only one value may be edited at a time; the <Tab> key serves no function here.
- ◆ You must *always* complete the editing of a value by pressing <Return>.
- ◆ Dates must *always* be entered in the mm/dd/yy format. Invalid dates will not be accepted (e.g. 2/30/87 will be converted to 3/2/87 while 3-2-87 will be replaced by the current date).
- ◆ Stock prices can only be entered in decimal (28.125) format, not fractional (28 1/8) format. Entered values will not be rounded to the nearest eighth (unlike, for example, in the Edit SIS dialog box).

OPTIMIZE THE SHARES BOUGHT OR SOLD

This function determines, for you, the maximum number of shares that can be purchased with the available cash (taking into account the required commission) or sold

(the total currently owned). It has no effect on deposits or withdrawals. Simply click on **Optimize**. If the last ledger item is not currently selected an Alert Box will present you with three options:

- ♦ **Cancel:** Don't optimize anything, after all.
- ♦ **Only:** Only the selected entry will be optimized. This is particularly useful for optimizing a new transaction in the Permanent Ledger.
- ♦ **All:** The optimize function will be applied to the current ledger entry, then to every following transaction in sequence. If entries have not previously been optimized, then this will tend to have a "ripple" effect. Buying more will allow you to sell more and selling more will then allow you to buy more...

When the last entry is selected, **All** and **Only** are synonymous so the Alert Box is not displayed.

ADD A DEPOSIT TRANSACTION TO THE LEDGER

This function allows you to add cash to your "account." This allows you to keep track of the cash you supply to purchase stock shares. Simply click on **Deposit**. A new ledger entry will be added to the list. The default date for this new entry is based on the current position in the ledger. This date, of course, may be edited (see above). The cash flow item must also be edited to reflect the actual amount deposited. Notice that the Price, Shares, and Commission items are not used in a **Deposit** ledger entry.

ADD A WITHDRAWAL TRANSACTION TO THE LEDGER

This function is just the opposite of the Deposit Transaction just described -- cash is removed from your "account." Simply click on **Withdraw**. Then you may edit the entry as described above.

DELETE A LEDGER ENTRY

An entry may be removed from the ledger by clicking on **Delete**. An Alert Box will give you an opportunity to change your mind. Deleting an entry may affect the validity of subsequent transactions.

NOTES: (1) The **Optimize, Deposit, Withdraw, Delete**, and editing functions can allow you to "play with history." This won't cause any permanent damage to the Quotation and Simulation Ledgers (since they themselves are not permanent) but should be used with caution when the Permanent Ledger is being examined. To discourage such activity, these options will be disabled if a historical entry for a protected ledger is selected. (If you're brave and/or conscientious you can unprotect the Permanent Ledger, manipulate it at will, then **Cancel** out of the Ledger dialog box or intentionally not save the SIS and not cause any damage).

(2) (Color version only) To help remind you which ledger you are working with, the background of the dialog box is shaded grey for the Permanent Ledger and red for either of the "volatile" ledgers.

ADD A BUY OR SELL TRANSACTION

This cannot be done from the Ledger dialog box. Buy and Sell transactions are created elsewhere, depending on the ledger. When they are created (elsewhere), *Stalk the Market* automatically adds them to the proper ledger.

PRINT THE LEDGER

Two formats are available for printing the ledger contents. Your choice is selected by clicking on the button immediately to the right of the **Print Ledger** button at the top of the dialog box. Clicking on this button will toggle the selection between **Window** and **Whole**:

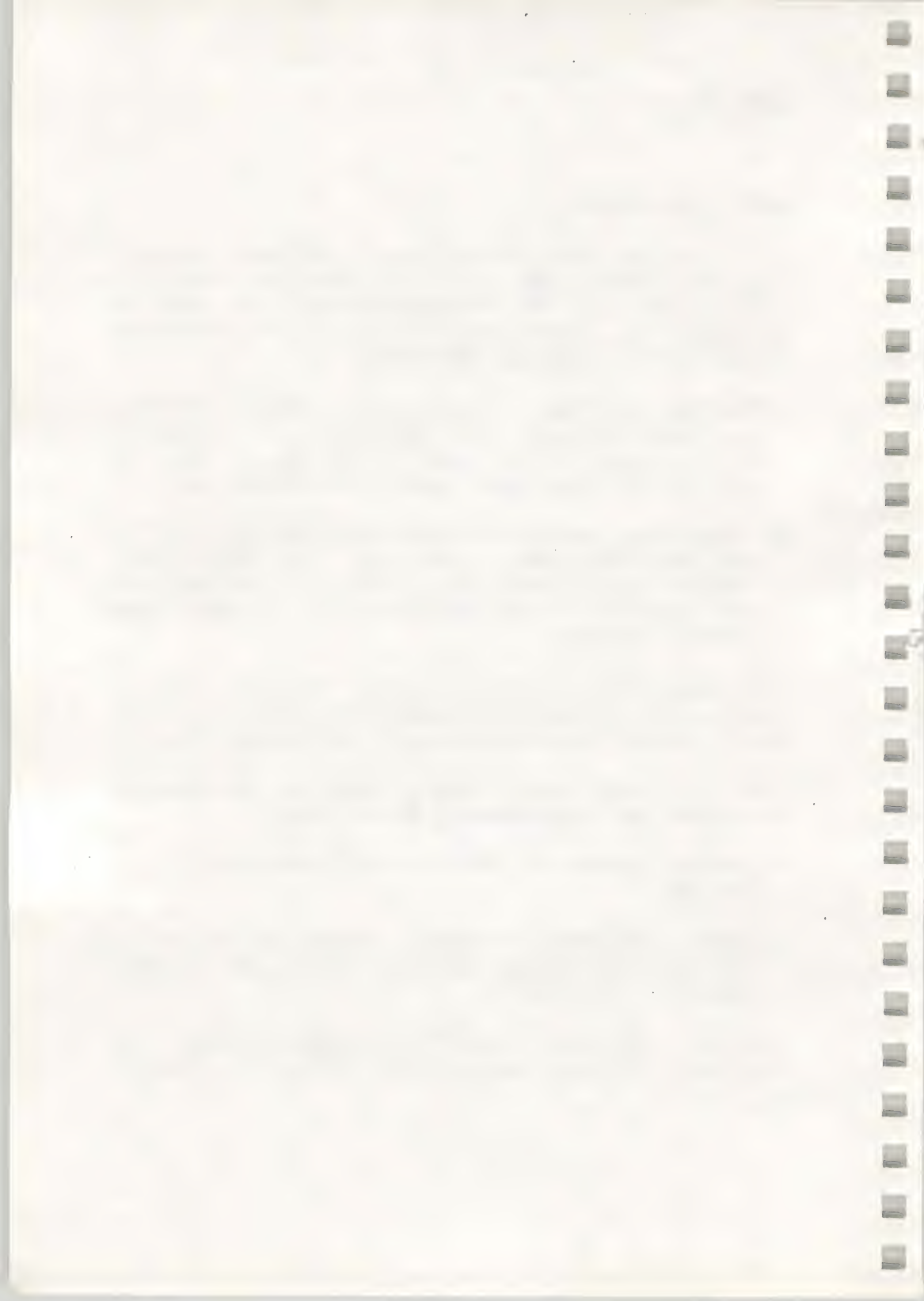
- ◆ **Window:** The (up to five) ledger entries currently displayed are printed. The highlighted entry is marked by an arrow to the right of the printed line. In addition, the calculated results are also printed.
- ◆ **Whole:** Every ledger entry is printed. In addition to the six displayed items for each entry, the running cash balance and cash value are also printed. The calculated results are not printed, but the total of all commissions charged is printed.

Once your choice of format is selected, the printing can be initiated by clicking on **Print Ledger**. The "printing" will be directed to the current print device (see *Printing*, page 54).

Once you have finished viewing, modifying, and printing the ledger, you may finish up in two ways:

- ◆ **Cancel:** None of the modifications to the ledger will be retained.
- ◆ **Exit:** All modifications will be retained. *In the case of the Permanent Ledger they will not be saved to disk until the SIS is saved.*

Other minor features unique to the different ledgers are described in the pertinent sections of this chapter.



THE ANALYZE MENU

The features of *Stalk the Market* described up to this point should enable you to competently manipulate the displays of historical stock price information and perform hypothetical transactions on historical data. This is all well and good, but the *real* power of *Stalk the Market* shows itself in the various capabilities available from the **Analyze** menu. These capabilities fall into three primary categories:

♦ **Cyclic Components**

Several techniques are available for establishing the historical data's predominant cyclic components. These include manual entry, rubberbanding, Fourier analysis, and moving average/residuals analysis. These cyclic components are used to establish the length of Valid Trend Lines (VTLs) and to suggest your trading cycle.

♦ **Real Buy and Sell Points**

These points can be manually entered or determined from analysis of VTLs, Trailing Loss Levels (TLLs), and Moving Averages. *Stalk the Market* includes facilities for creation, display, and selective deletion of VTLs and TLLs.

♦ **Historical Transaction Simulations**

These simulations allow you (in the manual mode) or *Stalk the Market* (in the automatic mode) to use historical data, day-by-day, as if it were in the present. This allows you to test and develop your skills (or *Stalk the Market's* skill) at using the above tools to better predict good buy and sell points. These skills can then be applied to real present data "as it happens."

The procedures (and terminology) described in this section may appear complex, but as you work with them and learn how to effectively intermix them, you should find the **Analyze** operations quite powerful, but yet easy to use. Again, this reference section will focus on the mechanics of the various functions. You can consult the *Using Stalk the Market* chapter (page 23) for some guidelines on how to integrate the various features of this menu's operations and the other capabilities of *Stalk the Market*.

PROTECTING YOUR DATA

Normally, you do not want to change historical time/price data or ledger entries which record past stock transactions. Therefore, by default, Stalk the Market does not permit you to change this information. However, if you need to correct bad data or, in fact, "play with history" (at your own risk), this data can be unprotected, thus permitting changes.

When an SIS is opened, the data is initially protected. This protection applies to both the SIS data (dates; high, low and closing prices; and volume) and the corresponding Permanent Ledger. This protection is indicated by a check mark next to the **Protect Data** item in the **Analyze** menu.

Operations that may require the data to be unprotected include:

- ◆ **Edit SIS Data...** (Quote menu).
- ◆ **Buy/Sell...Select New** (Analyze menu).
- ◆ **VTL and TLL Delete functions** (Analyze menu).
- ◆ **Status...Ledger** (Analyze menu).
- ◆ **Status...Update** (Analyze menu).

Some of these operations allow *current* items to be modified (SIS points or ledger entries) even when the data is protected.

1. To turn off the protection, click on the **Protect Data** item in the **Analyze** menu (no *Quick Key* available). An Alert Box will appear to verify that this is what you really want to do. After clicking on **Yes!** (if you're sure), check the **Analyze** menu again and verify that the **Protect Data** item is no longer checked.
2. To turn the protection back on, click on the unchecked **Protect Data** item. No Alert Box will appear in this case, but you can verify that the protection is on by dropping down the **Analyze** menu again and observe whether a check is beside the **Protect Data** item.

SELECTING CYCLIC COMPONENTS

One of the fundamental requirements for successful financial transaction timing is the identification of predominant cyclic components in the stock's time/price behavior. You, as the investor, need to identify several of these cyclic components and then select a desired trading cycle.

Several characteristics are typical of a stock's time/price history when it exhibits cyclic behavior:

- ◆ There are usually several predominant cyclic *components*. The *period* (time elapsed between adjacent highs or adjacent lows) of one of these components may be as long as several years or shorter than one day.
- ◆ The longer components typically have a greater *amplitude* (the price change between a low and a high).
- ◆ Shorter components are often hidden by the superimposed longer (and greater amplitude) components.

The *trading cycle* should correspond to one of the identified predominant cyclic components. The reasoning for this can be made apparent using a simple example:

Suppose a predominant cyclic component of six weeks is identified. This means that every six weeks the stock price goes from a minimum in the cycle to another minimum six weeks later. In between, it goes through a maximum at about three weeks after the start of the cycle. Ideally, this maximum occurs *half* way through the cycle. So, if you buy stock when the price is low at the beginning of the cycle, you would want to sell it when the price is high, three weeks later. Therefore, your actual trading (buy-sell) interval is three weeks, *one half* the period of the trading cycle.

In reality, the determination of cyclic components is complicated by many factors. Among them:

- ◆ There are usually several *different* cyclic components operating simultaneously; their effects are superimposed. Ideally, you would like to pick a buy point when several of them are at their cyclic low point *at the same time* and sell when several are at their cyclic highs.
- ◆ The period (duration), as well as the amplitude of a given cyclic component, typically change with time. It probably won't do much good to use cyclic data from five years ago and apply it to last month's data. However, cyclic data from the past six months may be a good indicator for the coming month or two.
- ◆ Not all stocks show "good" cyclic behavior. This is largely a judgement call on your part. *Stalk the Market* will help though, by providing several methods (notably historical "hypothetical" transaction series and the simulations) for analyzing historical data and assessing the value of transaction timing for a particular stock.

- ♦ "Funny" (non-cyclic) things can always happen (this is being written on October 21, 1987, two days after "Black Monday"). However, the cyclic behavior often gives hints of impending irregularities. (In fact, *Stalk the Market* would have, in almost every case, recommended a sell transaction during the week of 10/14/87, prior to the "crash.")

Stalk the Market provides several methods for identifying predominant cyclic components:

- ♦ **Manual Entry:** Actual numerical values for the cycles's duration are entered directly from the keyboard.
- ♦ **Rubberband:** The GEM "rubberband" (used elsewhere for zooming and identifying buy & sell transaction pairs) is used to graphically identify cyclic periods.
- ♦ **Fourier Analysis:** This is a mathematical technique used here to determine the relative significance of a range of potential cyclic components.
- ♦ **Moving Average/Residuals Analysis:** This technique allows you to selectively suppress shorter term components (using a "moving average") which can make the longer term components more easily identifiable. If this moving average is subtracted from the original data, the longer term components are, in effect, removed, leaving the shorter term components (residuals). It is often easier to identify short term components from the residuals than from the original data.

Each of these four techniques serves to identify candidate cyclic components. These candidates are transferred into a special Cyclic Component dialog box which allows you to select which ones will actually get saved with the SIS. This dialog box also permits averaging of "similar" components, deletion of currently stored cyclic components, and selection of the actual trading cycle.

In spite of all this attention to cyclic components, the actual algorithms used by *Stalk the Market* to recommend buy and sell points use the cyclic components only in a fairly subtle way. Undue effort should not be spent finding the "best" cyclic components. However, it can be fun! Here's how you do it...

Manual Entry

Specific numerical values for cyclic components may be entered from the keyboard.

1. Select the **Cycles...** from the **Analyze** menu. *Quick Key:* press <F3>. Then, from the secondary menu, select **Manual**. The Cyclic Components Dialog box will appear.
2. Click on one of the blank items in the **New** list. The editing cursor will appear to the left of this item. Enter the desired values into the **New** list using the standard GEM editing functions (the <Tab> and cursor keys are functional here). Be sure to enter the values in the units displayed on the left side of the dialog box. Type a <Return> after the last value has been entered.
3. The values you have entered will be redisplayed in the **New** list. You may now manipulate them as described in the *Cyclic Components Dialog* section (page 112).
4. Additional values may be entered by repeating step 2.

NOTES: (1) You must transfer these values to the **Stored** list before they can be recorded permanently (see page 114).

- (2) While you are entering new values (step 2) all other Cyclic Component dialog operations are disabled, until you press the <Return> key.
- (3) Once the <Return> key has been pressed (step 2), the new values cannot be edited. They can, however, be deleted and reentered.
- (4) This manual entry procedure can be used *whenever* the Cyclic Components dialog box is activated, as long as there are blank items in the **New** list.

Rubberband Entry

Cyclic components may be selected from visual inspection of the stock time/price graph. Often predominant cyclic components are readily observable from this graph without any further manipulation. Multiple estimates of a particular component may be selected. These estimates can then be averaged in the Cyclic Component dialog box.

1. Select **Cycles...** from the **Analyze** menu (Quick Key: press <F3>) followed by **Rubberband** from the secondary menu. Use the mouse to move the cursor over the active SIS window. The cursor will then appear as a crosshair.
2. Similar to the **Zoom** operation (page 46), first select one limit of a cyclic interval (for example, a peak in the time/price graph). Then press the left button and drag the expanding rectangle down and to the right until the right edge of the rectangle coincides with the next limit in the data (e.g., the next peak). Then release the mouse button. The vertical dimension of the box has no significance. *Stalk the Market* will calculate the elapsed time spanned by the rectangle. This value will be displayed in the upper right corner of the desktop.

3. Step 2 can be repeated up to 24 times to generate as many as 25 intervals for input into the Cyclic Component dialog box.
4. After all the intervals have been selected, move the cursor outside the active SIS window and click the *left* mouse button. This will activate the Cyclic Component dialog box (page 112).

Fourier Analysis

Stalk the Market provides a powerful mathematical method for automatically determining the predominant cyclic components which characterize stock time/price data. Fourier analysis transforms the time-based data into its frequency equivalent. This frequency information, in turn, is inversely proportional to the periodicity (the cyclic components) of the data. The result of this computation is a distribution of the "significance" of a range of potential cyclic components. Those components which are significant can be retained for use in other Stalk the Market operations.

If the above description appears to be all Greek, fear not; stepping through the following procedure should allow you to use this feature even if the whys and how-fors are not yet clear.

1. Select **Cycles...** from the **Analyze** menu (*Quick Key:* press <F3>), followed by **Fourier Analysis** from the secondary menu. The Fourier Analysis dialog box should appear. The main features of this dialog box are:
 - ♦ **The Prompt/Progress Box:** This box, below the title in the upper left, gives a brief prompt of the next action required or the current state of the analysis. During the actual Fourier computation, a growing bar will show the progress of the calculation.

- ◆ **The Time/Price Graph:** This is a reproduction of the data currently displayed in the active SIS window. Notice that the same range of data is graphed (always as high/low bars). Once the Fourier Analysis dialog box is activated, there is no way to expand the range of data in this graph (without **Canceling** and redisplaying the SIS window). The subset of the SIS to be used for Fourier analysis is selected from this graph. This area of the dialog box will later be used to graph the Fourier transform from which the cyclic components will be selected.
- ◆ **The Rubberband Button:** Initially, this button is used to initiate rubberband selection of a portion of the graphed data to be used for Fourier analysis. Later, the function of this button will change to actually initiate the Fourier analysis or to initiate the transfer of the results into the SIS.
- ◆ **The Full Scale Button:** Initially, this button is used to select the entire range of graphed data for Fourier analysis. Later, it will be used to reset the process to the initial conditions.
- ◆ **The Scale and Peaks Arrows:** These small buttons adjacent to the time/price graph are inactive until after the Fourier transform has been calculated and graphed. At that time they are used to change the scale of the graph or to change the number of identified peaks (cyclic components) in the graph of the transform.
- ◆ **The Cancel Button:** As usual this button may be used at almost any point in the process to bail out with no damage done.

Now, with the various features identified, here's how you proceed with the Fourier analysis.

2. Select the data to be analyzed. This may be done in two different ways depending on how much of the graphed data you want analyzed.

- ♦ If you want to use all of the data currently graphed, simply click on **Full Range**.
- ♦ If you only want to use a portion of the graphed data, then click on **Rubberband**. Then move the cursor over the dialog box's graph and select the region of interest using the now familiar press-drag-release sequence (just like the rubberband cycle selection procedure described above). This portion of the graph will become highlighted.

NOTE: Selecting a particular range of data to analyze allows you to focus in on areas where the data appears particularly suitable (e.g. some cyclic regularity is visible). There's nothing wrong with using all of the data. You should experiment with different ranges to become familiar with which data behaviors result in useful Fourier transformations.

After completing one of the above options, the button functions will change to **Analyze** and **Reset**.

3. The selection process can be done over by clicking on **Reset**. The buttons will revert to their initial functions. Continue with Step 2.
4. To initiate the Fourier analysis on the selected data, click on **Analyze**. The process takes a little while; watch the progress bar...

TECHNICAL NOTE: *Stalk the Market* always uses the closing prices for Fourier analysis. The data is prepared for the transformation by, first, calculating interpolated price values for 512 equally spaced time intervals within the selected range. The price values are then offset so that the overall average is zero (this reduces the "DC" component in the transform). Then a Hanning filter is applied to the price data (reducing the "edge effects"). And, finally, a 512 point Fast Fourier Transform (FFT) is performed.

Upon completion of the Fourier transformation, the "frequency spectrum" is graphed in the area of the dialog box previously occupied by the time/price graph. Typically, this graph looks like a series of peaks with the higher amplitude peaks to the left. Some of the larger peaks may be identified by vertical lines under the peaks.

What does it all mean? You can think of this graph as a *histogram* of a range of potential cyclic components (time intervals between time/price maxima or minima). The *amplitude* (peak height) of each component is indicative of the relative significance of that component. You want to pick the components where the peaks are located.

5. (Optional) Now use the mouse to move the cursor over the graphed "frequency spectrum." As you move the cursor left and right across the graph, peaks "marked" by the vertical lines will be labeled, one-at-a-time, with the corresponding time interval (cyclic component), in days.
6. (Optional) You may change the vertical scale of the graph by clicking on the **Scale Up** or **Down Arrow**. This allows you, for example, to enhance the lower intensity portions of the spectrum. This does not change the number of marked peaks.

7. (Optional) You may increase or decrease the number of "marked" peaks by clicking on the **Peaks Up or Down Arrow**, respectively. Only those peaks which are marked (up to 25) can be transferred to the Cyclic Component dialog box.
8. (Optional) Repeat Steps 5, 6 and 7 until the desired components have been selected through peak marking.

NOTE: The Fourier transform can introduce artifacts which do not necessarily reflect the behavior of the original data. Usually, common sense will suggest when such an artifact is present. This will come with experience.

9. By now you probably have noticed that one of the buttons is labeled **Done**. When the candidate components are to your liking, click on this button. It will then change to **Transfer -> SIS**. Click on it again to activate the Cyclic Component dialog box. All marked components (up to 25) will be moved into this dialog box.

Again, you can bail out of the Fourier Analysis at almost any time (not during the calculation itself) by clicking on **Cancel**.

Moving Average/Residuals

The moving average is a mathematical method for "smoothing" out a set of time/price data. That is, the short-term fluctuations will be suppressed. This is useful for more easily identifying the longer term cyclic components. If this moving average is subtracted from the original time/price data (that is, the longer term cyclic components are subtracted out), the result is the so-called residuals which emphasizes the shorter term components.

Using simple mathematical expressions:

$$(\text{Time/Price Data}) = (\text{Long Term Components}) + (\text{Short Term Components})$$

If the moving average is an expression of the long term components then,

$$(\text{Time/Price Data}) = (\text{Moving Average}) + (\text{Short Term Components})$$

Or,

$$\begin{aligned} (\text{Short Term Components}) &= (\text{Time/Price Data}) - (\text{Moving Average}) \\ &= (\text{Residuals}) \end{aligned}$$

So, what determines "long" and "short?" First, a brief description of what the moving average calculation entails is in order. A *data* "window" (not to be confused with GEM windows!) must be defined. This window is characterized by its *width* (the number of adjacent data points to be treated together) and the *location*, in time, of its center (the middle data point). This window is then positioned at the beginning of the data set. The average price within the window is then calculated. This average is assigned to the *middle* point or *last* point in the window. This is one point in the *lagging* or *non-lagging* moving average, respectively. The window is then shifted one point to the right and the process repeated (to generate a new average value for the new middle point). This is repeated for the whole data set. The *lagging* moving average is mathematically "correct," but the *non-lagging* is more useful for signaling buy and sell transactions (see page 140).

NOTES: (1) Original, non-averaged data is always used for the calculation of new averages as the window is moved across the data set.

- (2) Window averages for the first and last half-window worth of data can not be calculated.

Now, back to the original question: What determines "long?" A good guideline to use is: *The moving average significantly suppresses cyclic components whose duration is **shorter** than the width of the window.* Therefore, it is often useful to use a determined cyclic component as the width of the window for the moving average calculation.

The residuals calculation is a simple point-by-point subtraction of the moving average price value from the original data set's price value. It should be apparent that cyclic components **longer** than the moving average window width are suppressed in this residual data.

Okay, now how does *Stalk the Market* let you perform these kinds of calculations?

Moving Average

1. (Optional) Use **Zoom** (see page 46) or other display operations to determine the range of data to which the moving average will be applied. All data *displayed* in the selected SIS window will be averaged. The contents of the SIS will *not* be affected.
2. Select **Cycles...** from the **Analyze** menu (*Quick Key*: press <F3>), followed by **Moving Average** from the secondary menu.
3. Select the desired moving average window width by "checking" one of the available options:
 - ◆ **Half Trading Cycle**: If a trading cycle has been established (see page 115), half this interval will be displayed. Note that the number of days displayed may not correspond exactly to half the trading cycle; instead, it reflects the nearest odd number of SIS point intervals (days, weeks, or months).

- ◆ **Full Trading Cycle:** This window width is roughly twice the above half trading cycle. This is the default if a trading cycle has been established.
- ◆ **Rubberband Interval:** After **Calculate** is pressed, the interval will be selected using a rubberband (similar to the rubberband cyclic component entry, page 99). Click on **Yes/No** (to display **Yes**) to the right of **Save?** if you want the rubberband interval automatically added to the cyclic component list.
- ◆ **Select Another Interval:** This value will be selected from the Cyclic Components dialog after **Calculate** is pressed.

NOTE: If no cyclic component is available then only **Rubberband Interval** is enabled. If at least one cyclic component is available then **Select Another Interval** is also enabled. Finally, if a trading cycle has also been selected (see page 115) then all four options are enabled.

Check the desired option by clicking on the small box to the left of the desired option.

4. You have two other options which affect the way the moving average is displayed or calculated:
 - ◆ **Lagging Display:** If you select **Yes** for this option, the moving average will be displayed *lagging* the actual price (each average point is displayed at the center, in time, of the data window used to calculate the average). Otherwise, it will be displayed at the right (most recent) end of the data window. The latter is usually more useful for transaction timing, but the former is "mathematically correct."

NOTE: This option does not affect the way the residuals are calculated. They are always calculated in the "mathematically correct" fashion.

- ♦ **Average Derivative:** If you select **Yes** for this option, the moving average will be applied to the *derivative* (actually, the differential) of the displayed data. The resulting data will be displayed in the lower third of the selected window. A dotted horizontal line will be displayed to indicate where the averaged derivative crosses zero. The price axis labels do *not* apply to this data.

This calculation is useful for emphasizing price changes relative to a particular half trading cycle (the moving average window). This average derivative is often referred to as the RSI curve.

NOTE: Residuals analysis (see the next section) *cannot* be applied to the averaged derivative.

5. To calculate the moving average, click on **Calculate**. If the third option in Step 3 was selected, the Cyclic Components dialog box will appear. Click on the desired component in the *Stored* list (only one selection is permitted, but you may change it). When the desired value is selected, click on **Exit**.

The moving average will be calculated and overlaid onto the graph in the selected SIS window. The moving average may now, for example, be used to assist in identifying new cyclic components using the **Rubberband** operation. Alternatively, you may now proceed with examination of the residuals (unless you selected the averaged derivative)...

Residuals

1. Select **Cycles...** from the **Analyze** menu (*Quick Key*: press <F3>), followed by **Residuals** from the secondary menu. This item will be selectable only if the moving average has been previously calculated. The Residuals Analysis dialog box should appear. The original time/price data, the moving average, and the calculated

residuals will be displayed one at a time. You now have several options (as suggested above):

- ♦ **Select one or more data sets for display:** This is accomplished by clicking on one or more of the large square buttons labeled **D** (original time/price Data), **A** (moving Average), or **R** (Residuals). When the button is black, that data set is currently displayed. To remove a display, simply click on the corresponding button again. You may select any combination of **D**, **A**, and **R** for simultaneous display. The **Find Peak/Valleys** operation is available only when one data set is displayed (*Stalk the Market* needs to know which one you want to analyze).
- ♦ **Calculate the peak and valley locations:** Simply click on the **Find Peak/Valleys** button. The peak locations will be marked along the upper edge of the data display. The valleys -- along the lower edge. If no marks appear, you need to increase the sensitivity (see below). This operation is disabled if more than one data set are displayed simultaneously (or if none is displayed).
- ♦ **Adjust peak/valley sensitivity:** To increase the sensitivity (find more peaks and valleys) simply click on the right-pointing arrow (->) to the right of the **Find Peak/Valleys** button. This will also invoke the peak/valley calculation with the new sensitivity. To decrease the sensitivity, click on the left-pointing arrow. The current sensitivity value is displayed as a shaded bar underneath the **Find Peaks/Valleys** button, between the arrow buttons.

- ♦ **Label selected peak-to-peak or valley-to-valley intervals:** Once the desired peak and/or valley locations have been marked (maybe including some you don't want), move the cursor over the graph (it should change to a pointing hand) and position it in the top half of the graph between two of the peak marks. The time interval (in days) between these marks will be displayed. Moving it to the left or right will display alternative intervals (if sufficient marks exist). The same procedure can be applied to the valley marks by moving the cursor to the lower half of the graph.
- ♦ **Remove unwanted peak or valley marks:** Use the above procedure to identify the interval whose *left* mark you want to remove. Once the interval is displayed, click the *left* mouse button. The left mark will change from a solid line to dotted and will be ignored in subsequent interval determinations (notice that the displayed interval immediately changes to include the next mark to the left, if there is one).
- ♦ **Restore a "removed" peak or valley mark:** Simply move the cursor to the immediate right of the "removed" mark and click the *left* mouse button. It will change back to a solid mark and will again be included in the interval calculations.
- ♦ **Apply the moving average to the calculated residuals data:** Click on **Recycle**. The Cyclic Components dialog box will appear. Refer to the above instructions (see **Select Another Interval**, page 107) for selection of the desired window width. The moving average will be applied to the *residuals* and the Residuals Analysis dialog box will return. Now, the "Data" is the previous residuals, the "Average" is the most recent moving average applied to those residuals, and the

"Residuals" is the difference between the two ("second-order" residuals). Notice that you can now repeat the **Recycle** function on the new residuals.

- ♦ **Calculate the derivative** (actually a "differential"): Click on **Derivative**. This button is enabled only when a single data set is displayed. The derivative indicates the *difference* between adjacent values. Hence, peaks will appear where the price is changing most rapidly in the *upward* direction and valleys will appear where the price is changing most rapidly in the *downward* direction. The derivative is zero where the price is not changing. Multiple derivatives can be performed by clicking on **Derivative** again (and again...).

The above functions can be used to identify potential cyclic components. You may use these functions on any of the three data sets. For well-behaved data you will often identify several estimates of the same cyclic component (repeated peak-to-peak intervals and the corresponding valley-to-valley intervals). These can be averaged in the Cyclic Components dialog box.

2. If you have no desire to turn the calculated intervals into stored cyclic components (or if you haven't even calculated any), you can exit the Residuals Analysis by clicking on **Done** (this could be considered a **Cancel**; none of the results is retained).
3. To move the displayed peak-to-peak and valley-to-valley intervals (as candidate cyclic components) into the Cyclic Component dialog box for further manipulation (and eventual storage), click on **Transfer -> SIS**. This button is enabled only if at least one interval is available. A maximum of twenty-five intervals can be transferred.

NOTE: If *more* than twenty-five intervals are available only the *first* twenty-five (peaks intervals, then valley intervals) are transferred. An Alert Box will warn you if this should occur.

The Cyclic Components Dialog

The various techniques for cyclic component determination all generate a list of candidate cyclic components. They all activate this dialog box to permit additional processing and final selection of desired cyclic components. This dialog box also provides the mechanism for maintaining the cyclic components currently residing in the SIS and for selecting the desired trading cycle.

Stalk the Market *uses only the trading cycle and the next shorter cycle in its various analysis operations.* You may, however, store up to twenty-five cyclic components in the SIS (and SIF).

The Cyclic Components dialog box can be accessed directly using *Manual Entry* (page 98). Otherwise it is invoked after one of the cyclic component selection techniques described above. The general features of this dialog box are:

- ◆ A prompt box located below the title in the upper left corner. This prompt reminds you of the function currently being performed.
- ◆ A list of candidate cyclic components. This list is labeled **New**.
- ◆ A list of SIS cyclic components, labeled **Save**. These are the values that will be retained in the SIS when the **Save** button is used. The currently selected trading cycle (if any) is highlighted.

- ◆ Several buttons between the two lists which let you transfer values between or delete values from the two lists. The **Trade** button permits selection or de-selection of a trading cycle.
- ◆ Two values labeled **Ave** and **Std**. When more than one value in the **New** list are selected, their average value and standard deviation will be calculated and displayed here.

NOTE: The standard deviation is a measure of the "spread" in the values averaged. The smaller this number is, the more similar these averaged numbers are.

The average value can be transferred into the **Save** list using the lower **Add ->** button.

- ◆ Time units of the displayed values (e.g. days). The button to the right of the **Display as** prompt can be used to change the units.
- ◆ The **Save** list can be printed using the **Print** button.

The general objectives of this dialog are to use these features to select desired cyclic components from the **New** list and place them into the **Save** list, to select a trading cycle, or to delete unwanted cyclic components from the **Save** list.

NOTE: The **Moving Average** function uses this dialog box for selection of the window width. In this case the **New** list is inactive and only one item in the **Stored** list (labeled **Save** during other operations) may be selected.

Add New Cyclic Components to the SIS

1. Select the desired components from the **New** list by clicking on each value. If you are selecting more than one value, be sure to hold down the <Shift> key while clicking the mouse (this is very similar to the standard GEM technique for selecting multiple files, one at a time). As each item is selected it will be displayed in inverse video (white on black). You may click on it again to deselect it. If more than seven new values are in the list you may need to use the **Scroll Arrows**, **Box** and **Bar** (in the conventional manner) to access the values of interest.
2. Once the desired values are highlighted, you have several options:
 - ◆ Click on the top **Add ->** button to transfer the values into the **Save** list.
 - ◆ Click on the <- **Delete** button to remove the selected values from the **New** list.
 - ◆ If more than one value are selected, click on the bottom **Add ->** button to transfer the average value into the **Save** list.

NOTE: New cyclic components which duplicate existing ones will *not* be added and all values will be rounded to the nearest 0.1 day.

3. Proceed with other options or complete the dialog by clicking on **Save** (retain modifications) or **Cancel** (ignore modifications).

NOTE: Clicking on **Save** will cause the cyclic components in the **Save** list to be retained in the SIS. They will not be saved to disk until the SIS is saved.

Select a Trading Cycle

1. Select the desired value in the **Save** list by clicking on it. The value will become highlighted and the **Trade ->** button will become enabled. You may need to use the **Scroll Arrows, Box and Bar** (in the conventional manner) to find the desired value in the list. If an extra shaded small box is present in the **Scroll Bar**, a trading cycle already has been selected; see Step 3 below.
2. Click on **Trade ->**. The selected value, now the designated trading cycle, will become highlighted. The shaded small box in the **Scroll Box** shows where this item is relative to the rest of the list. You may click on this small box to scroll the list down (up) to display the trading cycle.
3. To deselect the current trading cycle, either select a new one (using the above procedure) or reselect this one (click on the highlighted value, then on **Trade ->**).
4. Proceed with other options or complete the dialog by clicking on **Save** (retain modifications) or **Cancel** (ignore modifications).

NOTE: Clicking on **Save** will cause the selected trading cycle (and other changes) to be retained in the SIS. They will not be saved to disk until the SIS is saved.

Delete Cyclic Components from the SIS

1. Select the values to be deleted in the **Save** list (see Step 1 above for *Adding New Cyclic Components*).
2. Click on **Delete ->**.

3. Proceed with other options or complete the dialog by clicking on **Save** (retain modifications) or **Cancel** (ignore modifications).

NOTE: Clicking on **Save** will cause the deleted cyclic components to be removed from the SIS. This change will not be saved to disk until the SIS is saved.

Change the Display Units

The values for the cyclic components can be displayed in different units (such as days, weeks, months, or years) by clicking on the button to the immediate right of the **Display as** prompt. The button will indicate the current units. Regardless of the *display* units, cyclic components are always *stored* in units of days.

Print the List of Cyclic Components

The current **Save** list may be "printed" to the current print device (see *Printing*, page 54) by clicking on **Print**. The trading cycle, if selected, will be highlighted with an arrow in the right margin.

Examples of Cyclic Component Selection

We'll conclude this section with two quick examples of how these techniques can be used.

1. Suppose you want to establish a trading cycle of 30 days, regardless of the cyclic behavior of your stock prices. In reality, this is not a good idea, but it will serve as a simple example.
 - a. Select **Cycles...**, then **Manual**. Click on the first item in the empty **New** list.
 - b. Enter a value of **30**, followed by a **<Return>**.

- c. Click on your value of **30** in the **New** list to highlight it.
 - d. Click on the top **Add ->** button to move it into the **Save** list.
 - e. Click on your value of **30** in the **Save** list to highlight it.
 - f. Click on **Trade ->** to select and highlight it as the trading cycle.
 - g. Click on **Save** to retain this change in the SIS.
2. Suppose you just want to get to the Cyclic Components dialog to check what the current trading cycle is, if even selected.
- a. Select **Cycles...**, then **Manual**.
 - b. The Cyclic Components dialog box will appear. Look at the **Save** list. If there is no value highlighted and there is no small shaded box in the **Scroll Bar**, then no trading cycle has been selected. If there is no highlighted value but there is a small shaded box in the **Scroll Bar** then click on this small box to bring the trading cycle into view.

MANUAL SELECTION AND DISPLAY OF REAL BUY AND SELL POINTS

The buy or sell function is, of course, the fundamental transaction in "playing" the stock market. Stalk the Market provides several methods for suggesting when a purchase or sale is appropriate. You must, however, make the final decision (Stalk the Market does not call your broker). These methods will become apparent in the subsequent sections. You can, regardless of Stalk the Market's advice, explicitly select a buy or sell point at any time using the procedure described here. This transaction will be added to the selected stock's Permanent Ledger.

The **Buy/Sell** function selected from the **Analyze** menu not only allows this "manual" selection of new transactions but also the display of existing transactions.

Displaying Existing Transactions

This option annotates the time/price graph in the currently active SIS window with text marking the dates when various permanent transactions took place. This does not provide a detailed examination of the transactions (use **Status...Ledger**, page 147, to accomplish that).

Simply select **Buy/Sell** from the **Analyze** menu (*Quick Key*: press <F4>), followed by **Display All** from the secondary menu. The graph in the active SIS window will become annotated with any transactions currently recorded in the Permanent Ledger.

NOTES: (1) This annotation will not be restored if the window is resized or its scale changed.

- (2) These transactions should not be confused with the "volatile" quotation transactions generated from various functions in the **Quote** menu. The two sets of transactions are completely independent.

Selecting a New Buy or Sell Transaction

The procedure described here is similar to that described in the *View Single Days* section (see page 60). Again, though, the selected transaction is recorded in the Permanent Ledger.

1. Select **Buy/Sell...** from the **Analyze** menu (*Quick Key*: press <F4>), followed by **Select New** from the secondary menu.
2. If it isn't there already, use the mouse to move the arrow cursor over the active SIS window. When over the window the cursor will switch to a pointing hand.
3. The date/price information will be dynamically displayed for the SIS point nearest, but to the left of, the cursor. As you move the cursor across the window (from left to right and back) different annotations will be displayed. Note that the price bar for the selected date is highlighted as well. If you look closely you'll also see that the closing price on the bar is also highlighted. The underline of the date annotation also coincides with the closing price. Finally, notice that the vertical position of the cursor does not make any difference (as long as you stay within the active window).
4. **Selecting a Buy Point:** When the desired date is selected (using Step 3), press and release the **left** mouse button (being careful not to move the cursor to another point). *Quick Key*: press . The Save Buy/Sell Point dialog box will appear. You now have several options:
 - ◆ Notice the number of shares traded (**# Shares**). The value displayed is based on available cash (if you have previously performed a *Sell* Transaction) or is, by default, 50 shares. This value may be edited by clicking on the number displayed, pressing <Esc> and typing in the desired value followed by a <Return>.

- ◆ Click on **Save** to record this date and closing price as a *Buy* Transaction. The dialog box will disappear, the selected date will be labeled as a **Buy**, and the transaction will be recorded in the Permanent Ledger. If the current SIS is protected, only the most recent SIS point may be used to generate a transaction. For any other date, the **Save** button will be disabled.

NOTE: If you have selected an "Other" price (see below), *Stalk the Market* will not let you save this price if it does not fall between the date's high and low.

- ◆ To select the High or Low price as the actual buy price, click on the **High** or **Low** button, respectively. You may change your mind and click on another choice as many times as you like. Nothing becomes "permanent" until you click on **Save**.
- ◆ To select some price other than the High, Low, or Close, click on **Other**. This will enable the "Other" price for editing. Its default value is the average of the High and Low. To edit, click on the "other" price, type <Esc> to clear the price and type in the desired value, followed by a <Return>. The price may be entered in fractional form (28 1/8) or in decimal form (28.125). After pressing <Return>, the entered price will be converted to the nearest 1/8 dollar and displayed in fractional form.

NOTE: *Stalk the Market* always rounds SIS stock prices to the nearest 1/8 dollar. However, the prices in the ledger are stored to the nearest \$0.001.

- ◆ This data may be saved as a *Sell* transaction rather than a *Buy* by clicking on **Sell**. Again, nothing's "permanent" until you click on **Save** (e.g. you can switch back to *Buy* by clicking on **Buy**). Notice that the # **Shares** value changes as you switch back and forth.
 - ◆ If you decide you don't want this date to be either a *Buy* or *Sell* point, click on **Cancel**. *This is your only way of exiting if the **Save** button is disabled.*
5. **Selecting a Sell Point:** Follow the same procedure as just described for selecting a *Buy*, only press and release the **right** mouse button (instead of the left) to activate the Buy/Sell dialog box. *Quick Key:* press <S>. The default # **Shares** is the total currently owned, as recorded in the Permanent Ledger.
 6. If you need to "fine-tune" the transaction (e.g. specify a more exact share price than "to the nearest 1/8 dollar"), access the Permanent Ledger directly using the **Status...Ledger** menu selection (page 147).
 7. When all desired selections have been made, move the cursor outside the current SIS window (to **Done** on the menu bar) and click on either mouse button.

As with most other operations, any new buy or sell transactions do not become really permanent until the SIS is saved to disk.

VALID TREND LINES

*The valid trend line (VTL) is the primary graphical tool used by Stalk the Market for suggesting buy and sell transactions. The trend line establishes a limit which the stock price should not exceed **as long as the current trend continues**. When the price does "penetrate" this trend line, this suggests that a new trend is beginning (i.e. the price is approaching, or has passed through, a minimum or maximum suggesting a buy or sell transaction may be appropriate).*

Let's elaborate on the above description since understanding the utility of the Valid Trend Line is essential to reaping maximum benefit from *Stalk the Market*. There are really two different types of trend lines used by *Stalk the Market*; one type for trends downward (waiting for the price to "bottom out") and one for trends upward (waiting for the price to "peak"):

The Downward Valid Trend Line

When prices are falling we need to be able to detect when the upturn has begun (signaling a possible buy point). This "upturn" is a *change in the trend* which the downward VTL is intended to detect.

The downward VTL is, as described above, a threshold which you expect the stock price *not to exceed* as long as the current trend continues. It is characterized by being (typically) diagonal and sloping downward from left to right. It is placed (graphically) above the falling stock prices, but as close to them as reasonable. As the prices continue to fall, they should tend to stay below this diagonal line. However, once the upturn begins, the prices will approach this line and eventually penetrate it. This is the *buy signal*! The "tighter" you place the downward VTL to the actual prices or the steeper you make it, the sooner you will detect the change in trend. Unfortunately, placing

it too close or too steep may cause short term fluctuations in the prices ("noise") to signal an upturn prematurely. This is where human judgement and acquired experience come in handy.

The optimum placement of the downward VTL is facilitated by taking advantage of an identified short-term cyclic component (shorter than the trading cycle). As the prices are falling, this short-term component will cause "local" maxima and minima in the data (overall the prices will be falling, but while they do there will be this short term oscillation). Two adjacent local maxima in this short term component can serve as points *defining* the downward VTL (two points define a straight line...). If the downward trend continues through subsequent local maxima, a new and more "up-to-date" downward VTL can be constructed.

The Upward Valid Trend Line

If you understand the above description of the Downward VTL, the Upward VTL should be easy.

NOTE: If you *don't* understand the above description, you might consider consulting the book *The Profit Magic of Stock Transaction Timing* by J. M. Hurst (see Appendix B, page 171) for a more detailed discussion. Also, the **Automatic Simulation** (with annotation) operation of *Stalk the Market* graphically shows how this tool is used.

The only differences between the Upward VTL and Downward VTL are:

- ♦ The Upward VTL is placed *below* the upward trend in prices (it typically slopes upward from left to right).

- ◆ A change in the trend is indicated by prices *falling* and eventually penetrating (dropping *below*) the Upward VTL. This penetration is the *sell* signal!
- ◆ Local *minima* are used to define an Upward VTL.

Stalk the Market and Valid Trend Lines

Several functions for creating and manipulating Valid Trend Lines are provided:

- ◆ **Select New Valid Trend Lines:** New VTLs are graphically constructed and then stored in the SIS for future use. When constructed, penetrations will be detected and you will be able to establish the penetration as a *Buy* or *Sell* point.
- ◆ **Display All Valid Trend Lines:** All existing VTLs (both upward and downward) located within the active SIS window can be displayed.
- ◆ **Delete Valid Trend Lines:** Several flavors of selective deletion or "global" deletion are available.

Select New Valid Trend Lines

The procedure described here allows you to graphically select two SIS points which define the VTL. Once constructed the time/price data will be examined for penetration of this VTL. If found, you may establish a *buy* or *sell* transaction (as appropriate) at this point of penetration.

1. Select **VTL...** from the **Analyze** menu (*Quick Key*: press <F5>), followed by **Select New** from the secondary menu. *This function will be disabled unless both a trading cycle and at least one shorter cyclic component have been defined.*

2. Move the cursor inside the active SIS window. It should turn into a pointing hand. Notice that as you move across the graph a small "x" marks the selected SIS point. This is the candidate "first point" for the VTL definition.
3. Look in the upper right corner of the screen. Either **VTL -> Buy** or **VTL -> Sell** is displayed. This tells you which type of VTL is being constructed (the default is based on the last recorded transaction; e.g. if you most recently bought stock you are probably interested in constructing a Upward VTL, so **VTL -> Sell** should be displayed). To switch to the other type, simply press any key on the ST keyboard.

NOTE: If the graph of SIS data is made up of high/low bars, the price used for VTL construction will depend on the VTL type. Low prices are used for Upward VTLs and High prices are used for Downward VTLs. You should see the "x" mark jump from the top of the price bar to the bottom when you switch from **VTL -> Buy** to **VTL -> Sell**. For the other graph types (high, low or closing line graphs) only the graphed prices are used.

4. Use the mouse to move the "x" to a desired SIS point which will be used to define the VTL. This is usually a local maximum (Downward VTL) or minimum (Upward VTL). Then click the *left* mouse button (being careful not to move the mouse). This will freeze the "x" at the specified location. A second roving "x" will appear. This is the candidate "second point" for the VTL. You will also notice that as you move this "x" across the graph, candidate VTLs will be *dynamically* drawn.

5. If you decide you don't want the first point after all, click the *right* button. This will remove the candidate second point and unfreeze the first one. Now you can return to Step 3 or Step 4.
6. Otherwise, use the mouse to move the "x" to the SIS point which will define the desired VTL. This point may be before the first point. Then click the *left* mouse button. This will freeze the defined VTL, record it into the SIS, and remove the "x"s.

NOTE: The length of the VTL is determined by the selected trading cycle and the next shorter cyclic component. The line is extended forward in time one trading cycle beyond the later point used to define the VTL. For what it's worth (not much), the line is extended back in time from the earlier point by twice the shorter cyclic component (you could use this information to remind yourself of the duration of these components, once the VTL is drawn).

7. The SIS data between the second defining point and the end of the VTL will be analyzed for penetrations. Penetrations beyond the end of the VTL are *not* detected. If one or more penetrations are detected, a **Buy** or **Sell** annotation will be displayed at those points indicating suggested transactions.

If multiple penetrations are detected they will be annotated in "light" text. Move the cursor to embolden the one you wish to select.

If a penetration is indicated, you have two options:

- ◆ To establish this transaction, click the *left* mouse button. The Save Buy/Sell Point dialog box will appear (see *Selecting a New Buy or Sell Transaction*, page 119). Use this dialog to complete the transaction. *A transaction can be recorded only on the most recent date unless the data is unprotected.*

- ♦ To ignore the suggested transaction(s), click the **right** mouse button. The suggestion(s) will then be withdrawn.
- 8. A new roving "first point" will appear. If you want to establish additional VTLs, continue by returning to Step 3 or Step 4.
- 9. If you are done, use the mouse to move the pointing hand outside the active SIS window (to **Done** on the menu bar) and click the **left** button.

Pretty neat, huh?

Display All Existing Valid Trend Lines

This is relatively easy. Simply select **VTL...** from the **Analyze** menu (*Quick Key*: press <F5>), followed by **Display All** from the secondary menu. All VTLs (both upward and downward) recorded in the active SIS will be graphically displayed. Of course, those outside the current range of the active SIS window will not be seen.

NOTE: *Stalk the Market* does not provide any method for printing a list of the VTLs.

Delete Valid Trend Lines

The SIS (and SIF) has room to record twenty-five different Upward and Downward VTLs (total). If you try and exceed this limit the oldest VTL will be deleted (unknownst to you) to make room for the new one. Otherwise, VTLs cannot be deleted unless the SIS is unprotected. When unprotected, you have several alternatives for deleting the VTLs you want, whenever you want:

♦ **Delete Some Valid Trend Lines:** This alternative lets you graphically *select* which VTLs you want deleted.

1. Select **VTL...** from the **Analyze** menu (*Quick Key:* press <F5>), followed by **Delete Some...** from the secondary menu. All existing VTLs within the currently active SIS window will be displayed (as if you had selected **Display All**).
2. Use the mouse to move the cursor inside the active SIS window. Its form will change to a pointing hand.
3. As you move the cursor across the window, different *candidate* VTLs will flash. To mark the flashing VTL for deletion, press the *left* mouse button. The solid line will change to dotted (but it will still be flashing).
4. Repeat Step 3 to mark additional VTLs for deletion (the dotted VTLs are "marked"). To unmark a previously marked VTL, simply click the *left* mouse button again while that dotted VTL is flashing. It should change back to a solid line.

NOTE: Occasionally you may not be able to mark a particular VTL (this may happen if it coincides with another VTL). If this happens, you'll have to delete the "another" VTL first, then come back (start over) and delete the one you wanted to delete in the first place.

5. After you have marked all the VTLs you want deleted, move the pointing hand outside the active SIS window and click the *left* mouse button. An Alert Box will give you a final chance to change your mind. If you proceed with the deletion, the active SIS window will be redisplayed with the deleted VTLs removed.

NOTE: These deletions will not become permanent until the SIS is saved to disk.

6. To cancel without deleting anything click (anytime) the **right** mouse button.

- ♦ **Delete All Valid Trend Lines in the Active SIS Window:** This alternative deletes all VTLs which exist (in whole or in part) in the time range of the selected SIS window. The VTLs do not have to be explicitly displayed for them to be deleted.

1. Select **VTL...** from the **Analyze** menu (*Quick Key:* press <F5>), followed by **Delete All...** from the secondary menu.
2. An Alert Box will appear. Click on **Window**. If you have second thoughts, click on **Cancel** instead.
3. The active SIS window will be redisplayed with the deleted VTLs removed.

NOTE: These deletions will not become permanent until the SIS is saved to disk.

- ♦ **Delete All Valid Trend Lines in the Entire SIS:** This alternative deletes *every* VTL.

1. Select **VTL...** from the **Analyze** menu (*Quick Key:* press <F5>), followed by **Delete All...** from the secondary menu.
2. An Alert Box will appear. Click on **All**. If you have second thoughts, click on **Cancel** instead.
3. The active SIS window will be redisplayed with the deleted VTLs removed.

NOTE: These deletions will not become permanent until the SIS is saved to disk.

TRAILING LOSS LEVELS

The Trailing Loss Level (TLL) is another key graphical tool used by Stalk the Market. Unlike Valid Trend Lines, Trailing Loss Levels are used only to suggest sell transactions. A Trailing Loss Level is usually established as a specific price determined by a local minimum (see the Valid Trend Line discussion, page 122) while the prices are rising after a stock purchase. As the prices (hopefully) continue upward, these local minima will occur at higher and higher prices, thus defining higher and higher Trailing Loss Levels. If the price should drop below one of these TLLs, a sell transaction is recommended.

If you are now familiar with the Valid Trend Line capabilities described in the preceeding section, Trailing Loss Levels should come quite easily. You may want to think of a TLL as a horizontal "Upward" VTL that extends forward in time forever.

Stalk the Market provides the following functions for creating and manipulating Trailing Loss Levels (you should find these quite similar to the VTL functions):

- ◆ **Select New Trailing Loss Levels:** New TLLs are graphically constructed and then stored in the SIS for future use. Once constructed, subsequent penetrations (prices falling below the TLL value) will be detected and you will be able to establish the penetration as a *Sell* point.
- ◆ **Display All Trailing Loss Levels:** All existing TLLs located within the active SIS window can be displayed.
- ◆ **Delete Trailing Loss Levels:** Several options are available for selective or "global" deletion.

Select New Trailing Loss Levels

The procedure described here allows you to graphically select a price you wish to be recorded as a TLL. Once established the time/price data will be examined for penetration of this TLL. If found, you may establish a sell transaction at this point of penetration.

1. Select **TLL...** from the **Analyze** menu (*Quick Key*: press <F6>), followed by **Select New** from the secondary menu.
2. Move the cursor inside the active SIS window. You should observe a horizontal dotted line and TLL label adjacent to the lowest price graphed for the date nearest the pointing hand cursor. This candidate TLL will *dynamically* change as you move the cursor back and forth across the window (vertical motion will have no effect).

NOTE: If the SIS is currently graphed with high/low bars, then the low price will be used for the candidate TLL value. Otherwise (high, low, or closing price line graphs), the graphed price will be used.

3. Use the mouse to select the desired candidate TLL. This is usually a local minimum after the most recent buy transaction (you may choose to make the purchase price a TLL). Then click the *left* mouse button (being careful not to move the mouse) to record this TLL in the SIS. The resulting fixed TLL annotation will include only a short horizontal line segment instead of the one extending to the right border of the window.
4. The SIS data after the TLL date will be analyzed for penetrations. If one or more penetrations are detected, *Sell* annotation will be displayed at those points indicating suggested transactions.

NOTE: If multiple penetrations are detected they will be annotated in "light" text. Move the cursor to embolden the one you wish to select.

- ♦ If you wish to establish this transaction, click the **left** mouse button. The familiar Save Buy/Sell Point dialog box will appear (see *Selecting a Real Buy or Sell Transaction*, page 118). Use this dialog to complete the sell transaction.
 - ♦ If you just want to ignore the suggested transaction(s), click the **right** mouse button. The suggestion(s) will then be withdrawn.
5. A new roving candidate TLL will appear. If you want to establish more TLLs continue by returning to Step 3.
 6. If you are done, use the mouse to move the pointing hand outside the active SIS window (to **Done** on the menu bar) and click the **left** button.

Display All Existing Trailing Loss Levels

This is relatively easy. Simply select **TLL...** from the **Analyze** menu (*Quick Key*: press <F6>), followed by **Display All** from the secondary menu. All TLLs recorded in the active SIS will be graphically displayed. Of course, those outside the current range of the active SIS window will not be seen.

NOTE: *Stalk the Market* does not provide any method for printing a list of the TLLs.

Delete Trailing Loss Levels

The SIS (and SIF) has room to record twenty-five different TLLs. If you try and exceed this limit the oldest TLL will be deleted (unbeknownst to you) to make room for the new one. Otherwise, TLLs cannot be deleted unless the SIS is unprotected. When unprotected, you have several alternatives for deleting the TLLs *you* want, whenever you want. These are very similar to the corresponding Valid Trend Line deletion methods described previously:

- ♦ **Delete Some Trailing Loss Levels:** This alternative lets you graphically select which TLLs you want deleted.
 1. Select **TLL...** from the **Analyze** menu (*Quick Key*: press <F6>), followed by **Delete Some...** from the secondary menu. All existing TLLs within the currently active SIS window will be displayed (as if you had selected **Display All**).
 2. Use the mouse to move the cursor inside the active SIS window. Its form will change to a pointing hand.
 3. As you move the cursor across the window, different candidate TLLs will flash. To mark the flashing TLL for deletion, press the **left** mouse button. The solid annotation will change to dotted (but it will still be flashing).
 4. Repeat Step 3 to mark additional TLLs for deletion (the dotted TLLs are "marked"). To unmark a previously marked TLL, simply click the **left** mouse button again while that dotted TLL is flashing. It should change back to solid.

5. After you have marked all the TLLs you want deleted, move the pointing hand outside the active SIS window and click the *left* mouse button. An Alert Box will appear giving you a final chance to change your mind. If you proceed with the deletion, the active SIS window will be redisplayed with the deleted TLLs removed.

NOTE: These deletions will not become permanent until the SIS is saved to disk.

- ♦ **Delete All Trailing Loss Levels in the Active SIS Window:** The TLLs do not have to be explicitly displayed for them to be deleted.

1. Select **TLL...** from the **Analyze** menu (*Quick Key:* press <F6>), followed by **Delete All...** from the secondary menu.
2. An Alert Box will appear. Click on **Window**. If you have second thoughts, click on **Cancel** instead.
3. The active SIS window will be redisplayed with the deleted TLLs removed.

NOTE: These deletions will not become permanent until the SIS is saved to disk.

- ♦ **Delete All Trailing Loss Levels in the Entire SIS:** This alternative deletes *every* TLL.

1. Select **TLL...** from the **Analyze** menu (*Quick Key:* press <F6>), followed by **Delete All...** from the secondary menu.
2. An Alert Box will appear. Click on **All**. If you have second thoughts, click on **Cancel** instead.

3. The active SIS window will be redisplayed with the deleted TLLs removed.

NOTE: These deletions will not become permanent until the SIS is saved to disk.

THE SIMULATIONS -- a.k.a. BACK TO THE FUTURE

Suppose it is now January 2, 1987. You decide to enter the stock market with a purchase of 100 shares of Atari stock. Of course, by making this or any other investment in the stock market you may be exposing yourself to considerable financial risk. Realizing this, you forge ahead. You watch how the price changes from day to day. Using tools provided by Stalk the Market you judiciously sell and re-buy shares as the year proceeds to maximize the cash value of your investment. Suddenly "Black Monday" (October 19, 1987) hits. Did your acquired skill with Stalk the Market get you out of the market in time? Maybe not. Now you only wish you had a second chance -- now you know better what to look for and to heed Stalk the Market's advice. Oh well, it's only money...

Well, *Stalk the Market* provides you with a time machine, of sorts, to let you do exactly this. Of course, when you start dabbling with history, all transactions are hypothetical. You won't become a *real* millionaire, but you won't end up in the real gutter either. Even though real bucks aren't involved, this activity will provide valuable practice in sharpening you stock transaction timing skills. You can even treat it as a game: given the same set of historical data and the same initial stake, who can make the most money?

Stalk the Market actually provides you with two different simulators:

- ♦ **Manual Simulation:** Here you have full control over the *Stalk the Market* tools: you decide where the VTLs and TLLs should be placed and when to use moving averages. *Stalk the Market* only suggests when you might want to buy or sell; the actual decision is in your hands. *Stalk the Market* also relieves you of all the bookkeeping chores.
- ♦ **Automatic Simulation:** *Stalk the Market* assumes full control and performs its own simulation. It sets VTLs and TLLs, performs buys and sells and, when done, shows you how well (poorly) it did. Through some "tuning parameters", you have control over how *Stalk the Market* makes its decisions. You can work with these parameters to try and make *Stalk the Market* "smarter" (and, always, "dumber"). Can you make it perform as well as you did with your manual simulation?

The simulators operate under the premise that you are dealing with only one stock in your portfolio and that you always follow a buy-sell-buy-sell... pattern (*Stalk the Market's* bookkeeping skills do *not* include full-fledged multiple-stock portfolio management). Even with these minor restrictions, working with these simulations may provide insight into characterizing a stock's time/price behavior. You may be confident in applying this historical behavior as a prediction of future behavior of a stock's price. And if you can successfully predict the future...

The Manual Simulation

Before beginning a manual simulation there are several preliminary operations you might have to perform:

- ◆ Make sure you have established a trading cycle and that at least one shorter cycle is available (see the previous section). If you haven't, the **Simulation...** menu item will be disabled.
- ◆ (Optional) Rescale the active SIS window to display the range of data where you want the simulation to begin. The simulator will start you out with about two trading cycles worth of the current window's data (your simulation will start at the beginning of the third trading cycle).

EXAMPLE: If your trading cycle is 30 days and you want to begin your simulation at the beginning of the year, you should scale the active SIS window to begin with November's data from the previous year. *Stalk the Market* will initialize the simulation by displaying the first two months data (two trading cycles) and you will start off in early January.

- ◆ If you want to minimize your "advance" knowledge of the "future", try not to pay too much attention to the time/price data before you start the simulation. Otherwise, your decisions during the simulation may be biased. In practice, this doesn't present as much of a problem as it may seem since *Stalk the Market* is always rescaling the data displayed during the simulation; it is usually not too easy to "think back" to the full data set.

Okay, now we're ready to begin:

1. Click on **Simulation...** from the **Analyze** menu (*Quick Key: press <F7>*), followed by **Manual** from the secondary menu. The current SIS window will be resized, rescaled and placed on the left side of the desktop. Approximately two trading cycles worth of data will be displayed in the left side of this resized window. A tall narrow dialog box, entitled **Manual Simulation** will appear along the right side of the desktop. This box contains buttons which initiate the various functions you have at your disposal during the simulation.

NOTE: During the simulation the window's control points (**Scroll** functions, **Full Box**, **Close Box**, etc.) are all disabled.

2. The rightmost (most recent) high/low price bar is "today" for the simulation. Now you may begin stalking the market! For each day (or week or month, depending on the SIS data type), you have the following options:

♦ **Move to the Next Day**

NOTE: Although this description will assume you are working with daily data, the same procedures can be applied to weekly or monthly data (the wording within the **Next Day** button, and the window annotation, will remind you of the actual data type you are analyzing).

If you're done analyzing the current date and are ready to move to "tomorrow," click on **Next Day**. The next day's data will be added to the window and will become "today." Once you have moved on, you cannot go back in time; just like real life. If the new data results in the penetration of an existing Valid Trend Line or Trailing Loss Level, the appropriate transaction will be recommended. You may take the advice by clicking on the *left* mouse button, or refuse it by clicking on the *right* mouse button.

See *Valid Trend Lines*, (page 122) and *Trailing Loss Levels* (page 130) for additional information.

◆ **Buy or Sell**

You may "manually" perform a buy or sell transaction on the current date (regardless of *Stalk the Market's* advice or even after it "withdraws" its suggestion). Simply click on the button labeled **Buy or Sell** (this is the same button; its label changes depending on what the next transaction is to be). The familiar Save Buy/Sell Point dialog box will appear. Follow the usual procedure for entering your transaction (see *Selecting a New Buy or Sell Transaction*, page 119).

◆ **Set Up a Valid Trend Line**

The currently displayed data (up to and including "today's" data) may be used to construct one or more Valid Trend Lines (VTLs). Simply click on **VTL**. Use the VTL selection procedure described in the *Valid Trend Lines* section, page 124. If today's price is a penetration of a new VTL, the appropriate transaction will be recommended. You may accept or refuse it as described above.

◆ **Set Up a Trailing Loss Level**

A Trailing Loss Level (TLL) may be established at today's closing price or some preceding closing price. Simply click on **TLL**. This button will be disabled if you are currently looking for a *buy* point (where TLLs are of no help). Use the procedure described in the *Trailing Loss Levels* section, page 131. If today's price is a penetration of a new TLL, a *sell* transaction will be recommended. You may accept or refuse it as described above.

◆ Calculate a Moving Average

You may calculate and display a moving average by clicking on **Average** with the *left* mouse button (see page 106 for details on selecting the type of moving average; normally you will want to select the full trading cycle interval and *no lag*). After its display, any penetrations will be detected and a *buy* or *sell* transaction can be established as described above.

You may bypass the Moving Average Selection dialog box (and use the previously selected values) by using the *Quick Key* <A>.

◆ Examine the Simulation Ledger

The ledger for this simulation may be examined at any time during the simulation (after at least one transaction has been recorded). Click on **Ledger**. The Simulation Ledger dialog box will appear. Refer to *The Stalk the Market Ledgers* section (page 82) for instructions on manipulating the ledger from this dialog box. During the simulation, only "today's" transaction (if one exists) may be modified.

◆ Stop the Simulation

When you are done simulating (by your own choice) or you have run out of historical data ("today" is now *today*), in which case the **Next Day** button becomes disabled, you must exit by clicking on **Done**. An Alert Box will give you an opportunity to examine *and modify* the Simulation Ledger before leaving (your *last* chance to do so) or to reconsider your decision to exit.

After completing the simulation, the active SIS window will be restored to its original shape and scale, the SIS data will be redisplayed, and the Manual Simulation dialog box will be removed.

The Automatic Simulation

Stalk the Market has the ability to establish its own Valid Trend Lines and Trailing Loss Levels and use them to generate buy and sell transactions. Through a set of tuning parameters you can define **how** *Stalk the Market* makes these decisions. The rest of the simulation is, for you, just a watch-and-see activity. When the simulation is complete you can examine the resulting ledger. Unlike the Manual Simulation, this simulation does *not* explicitly use moving averages to determine buy and sell points (but see *Peak Definition* on page 143).

1. Make sure you have a trading cycle and at least one shorter cycle (the sub-trading cycle) established. Otherwise, the **Simulation...** menu item will be disabled.
2. Scale the current SIS window to display the range of data over which you want the simulation to occur.
3. Select **Simulation...** from the **Analyze** menu (*Quick Key*: press <F7>), followed by **Automatic** from the secondary menu. The Tuning Parameters dialog box will appear. There are lots of things you can adjust here. The values currently displayed are either the default values or the values previously set (these tuning parameters are recorded within the SIS and SIF). You may adjust the parameters as you see fit (presumably to try and improve *Stalk the Market's* ability to make money on its own). Parameters that you find to be "good" for a particular stock may be useful information to use in your own analysis of real new data for that stock, as it comes in.

◆ **Trading Cycles Analyzed**

When a new day is added, this number of trading cycles worth of prior data will be analyzed for new VTLs or TLLs. Increase the number by clicking on the right arrow (->) or decrease it by clicking on the left arrow (<-). The maximum number is nine and the minimum is zero.

◆ **Price Difference Req'd**

This is the minimum price difference between the VTL and the penetration price which will generate a transaction. For example, if zero, the closing price need only equal the VTL price (or exceed it for a Downward VTL or fall below it for an Upward VTL). If a value of one is entered then, for example, for a Downward VTL, the actual price must exceed the VTL price at the same date by at least one dollar to generate a candidate transaction. The value entered can be in decimal (10.625) or fractional (10 5/8) format.

◆ **# Penetrations Req'd**

How many of the penetrations satisfying the above condition must occur before a candidate transaction is generated? Increase the number by clicking on the right arrow (->) or decrease it by clicking on the left arrow (<-). The maximum number is nine and the minimum is one.

◆ **Must be Consecutive?**

If multiple penetrations are required, must they occur on adjacent trading days? To change the response, just click on the **Yes/No** button. This button is disabled if you have established that only one penetration is required.

◆ Valid VTL Spacing (Days)

When *Stalk the Market* analyzes the data for VTLs, it will reject any potential VTLs if the time interval between the defining SIS points is outside the specified range. Simply click on the right or left arrows to decrease or increase the values. The default values are, for the minimum, approximately one half the sub-trading cycle and, for the maximum, approximately three times the sub-trading cycle.

◆ Peak Definition

In the process of looking for VTLs and TLLs, *Stalk the Market* performs a moving average with a trading cycle window width and calculates the residuals to help identify the sub-trading cycle components. This data is analyzed for the maximum and minimum values. This parameter is used to calculate the fraction of this "peak-to-peak range" which will be used to identify the local maxima and minima caused by this sub-trading cycle component. Generally, the smaller this parameter, the more minima or maxima will be identified (if it's too small, "noise" may be interpreted as minima or maxima). Change the value by 5% increments by clicking on the left (decrease) or right (increase) arrow buttons.

NOTE: This non-trivial calculation is performed over the specified range of data (see **Trading Cycles Analyzed** above) after *each* new point is added.

◆ VTL Overlaps Allowed?

If this parameter is set to **Yes**, then any candidate VTLs (as defined by the other parameters) will be recorded. If **No**, then the first defining SIS point of a new VTL must be after the second defining SIS point of the most recent existing VTL. Click on the **Yes/No** button to select the desired answer.

◆ **Annotation?**

This parameter does not affect the decision algorithms but does affect what you will see while the simulation is in progress. With **No**, only the determined buy and sell points will be displayed. When you select **Yes**, relevant VTLs and TLLs will also be displayed.

NOTE: Because of the heavy demand of the full annotation on the GEM graphics, the simulation proceeds considerably slower than when "light" annotation is used. Reducing the size of the active SIS window prior to selecting this simulation will speed up the graphics.

- ◆ You may bail out of the simulation by clicking on **Cancel**. None of the parameter modifications will be retained.
4. When you have set the parameters to your liking, you can initiate the simulation by clicking on **Begin Simulation**. The dialog box will be removed, the window cleared and the simulation will start. SIS points will be added and analyzed, one at a time. As buys and sells are found, they will be so noted on the graph. When the simulation is complete the Simulation Ledger will appear for your examination and manipulation (see *The Stalk the Market Ledgers*, page 82). Exiting the ledger (clicking on either **Exit** or **Cancel**) will complete the automatic simulation.

NOTES: (1) The Simulation Ledger cannot be retrieved after leaving the dialog box at the end of the simulation. Also, the VTLs and TLLs will not be retained.

- (2) If you want to abort the simulation while it's in progress, you can do so by pressing the <A> key on your ST's keyboard. If some transactions have taken place, the Simulation Ledger will be activated for examination. Otherwise, the active SIS window will be restored.

After the simulation is complete, the Buy and Sell annotation will remain in the active SIS window (unless you aborted the simulation). You may restore the graph to its original state (remove the annotation) by, for example, (slightly) resizing the window.

In practice, you will probably have to experiment with the tuning parameters to find out what settings are best for the particular stock price data being analyzed. These "optimum" parameters will be retained if the SIS is saved to disk. You may find it more efficient to do this experimentation with the **Annotation?** set to **No** (speeding things up). Then when it looks like *Stalk the Market* is picking "good" buy and sell points, turn on the annotation to watch what's really going on.

PROCESSING NEW STOCK PRICE DATA

After new stock price data is received, it is important that this data not only be added to the existing historical data, but also it should be compared against moving averages and existing Valid Trend Lines and Trailing Loss Levels to determine if a transaction is now appropriate.

Stalk the Market will automatically alert you if new data added to the SIS (either during the downloading process or when the SIS is loaded), when compared to existing VTLs and TLLs (but not moving averages), suggest a transaction should be performed. In either case, the Alert Box will suggest you refer to the **Status Update** to inspect the current state of things. This update also will allow you to inspect or supplement existing VTLs and TLLs even when a transaction is not suggested. Although the Permanent Ledger is accessible here, it can also be accessed directly from the **Analyze** menu.

Updating the Stock Information Structure and the Permanent Ledger

These operations are conveniently available through a single menu selection and are designed to provide you an easy way to update the current state of the SIS and Permanent Ledger after new stock price information has been received. Let's assume that you have already added the new data to the SIF through downloading (see page 151) and the SIF, in turn, has been loaded into an SIS. (Alternatively, you may have manually edited the relevant SIS.)

1. Select **Status...** from the **Analyze** menu (*Quick Key*: press <F2>), followed by **Update** from the secondary menu. What follows is very similar to the *Manual Simulation* described in detail above (refer to that section, starting on page 137, for the specific options available). The primary difference is that only the most recent SIS data can be analyzed (the **Next Day** button is disabled).

2. Penetrations will be detected, you can enter transactions, add new VTLs or TLLs, calculate moving averages, examine the (now Permanent) Ledger, etc.; just like during a **Manual Simulation**. Unlike the simulation, any additions you make (transactions, VTLs, or TLLs) will be recorded in the SIS and/or the Permanent Ledger for posterity (but be sure to save the SIS to disk).
3. When you have completed your update, click on **Done**. Through an Alert Box, you will be given a chance to inspect the Permanent Ledger before leaving. Upon completion, the active SIS window will return to its original size and scale and the Transaction Update dialog box will be removed.
4. You may always select **Update** again if you decide there is more you want to do.

NOTE: Most options available in the Update dialog can be done "manually" through other **Analyze** menu options. **Update** just provides these capabilities in a nice interactive package with a conveniently scaled window. However, *Stalk the Market* suggests permanent buy and sell points from moving averages *only* from this Update dialog.

Accessing the Permanent Ledger

As just described, the Permanent Ledger is available from the Update dialog. It may also be accessed directly from the **Analyze** menu by selecting **Status...** (*Quick Key*: press <F2>), followed by **Ledger** from the secondary menu. Refer to *The Stalk the Market Ledgers* section (page 82) for specific instructions on examining and manipulating the ledger dialog.

NOTE: Unless the SIS is unprotected, only ledger entries with today's date may be edited. You may add **Deposit** and **Withdraw** transactions with today's date. If you need to add to the ledger "after the fact" (e.g. you deposited the money yesterday), then you need to unprotect the data first (see *Protecting Your Data*, page 94).

This completes the reference material for the **Analyze** menu. If you have worked through this section experimenting with the various capabilities available, you should already be well aware of their utility. The *Using Stalk the Market* chapter (page 23) further demonstrates how these features can be integrated with each other and with other capabilities of *Stalk the Market*.

FILE MAINTENANCE

This section provides reference instructions for the miscellaneous operations available from the **File** menu. Some file operations such as loading, saving, and closing Stock Information Structures have already been described (see the *Basic Operations* section, page 39) and will not be covered here. Another file operation, creating *DEGAS* picture files, is described in the *Printing* section (see page 57). Some of the operations described here are very important and very useful (e.g. the downloading capability); others may rarely be used (e.g. converting to and from the DIF format).

CREATING A STOCK INFORMATION FILE

Stalk the Market will **automatically** create *Stock Information Files* as required if you:

- ◆ *Are using the automatic downloading capability, or*
- ◆ *Process Dow Jones News/Retrieval historical data acquired using some other telecommunications software.*

However, if you are obtaining your data from some other source (such as CompuServe, Delphi, or the newspaper) you must create the Stock Information File yourself (and subsequently enter stock date and price data manually).

The SIF creation operation is a minor extension of the **Edit SIS Data...** operation (described in *The Quote Menu*, page 64). Only the differences will be explained here.

1. Select **Create...** from the **File** menu (*Quick Key*: press <N>, as in *New*). The *Edit SIS* dialog box will appear, only the title will now be **Create SIF**.
2. Click on the text field to the right of the title and enter the stock name abbreviation. Be sure to complete the entry with a <Return>.

NOTE: The abbreviation you use may be anything you want. However, if you plan to, at some point in the future, automatically download into this file you should use the accepted abbreviation (see page 28). Once the SIF is created, *Stalk the Market* does **not** provide any means for changing this abbreviation.

3. Proceed to enter date, price, and volume data for this stock. The procedures are identical to those used for editing an SIS.
4. When you have entered as much data as you want (you can always add more later by using **Edit SIS Data...**), click on -> **SIF**. This creates the Stock Information File on disk.

NOTES: (1) You must have entered a stock name abbreviation before you click on -> **SIF**. If you haven't, an Alert Box will remind you.

(2) If an SIF already exists for the stock you specify (through the abbreviation) you will be asked if you want to overwrite it.

(3) The -> **SIF** operation does not affect the Stock Information Structures in memory. To work with a newly created SIF, you must now load it into an available SIS (see page 39).

5. If, instead, you decide you don't really want to create a new SIF after all, click on **Cancel**.

DOWNLOADING FROM DOW JONES NEWS/RETRIEVAL

If you have access to the Dow Jones News/Retrieval (DJN/R) telecommunications news service (through a modem and an active subscription), very easy and efficient methods are available for bringing new stock time/price data into your Stalk the Market Stock Information Files. If, in addition, you are able to access this service through the Tymnet or Telenet communication network, the complete download process can be performed directly from Stalk the Market.

If you do not have access to *Dow Jones News/Retrieval*, stock time/price data will have to be entered manually (see the preceding section).

Processing Previously Downloaded DJN/R Data

You may choose to download DJN/R historical quote data independently of *Stalk the Market*. To do this you will have to use your own communications program (which must have some downloading capability; at least a text capture option) and perform the required dialog with DJN/R to access the historical quotes you desire. These quotes should then be captured into a text file on your ST's disk for processing by *Stalk the Market*.

NOTES: (1) If you are not familiar with either your communications program or with DJN/R, consult the appropriate documentation.

- (2) It is not too critical when you start and stop the capture, as long as it starts before you request the first historical quote and ends after the last quote you wish to record. *Stalk the Market* has the "smarts" to sort out any irrelevant downloaded information.

- (3) You may intermix daily and monthly data (both available from DJN/R) or data from different stocks or both. Again, *Stalk the Market* has the smarts to sort it all out.
- (4) Be sure to note the filename you give to the captured data. You will have to supply this name to *Stalk the Market*.

The following instructions assume you have captured DJN/R data into a disk file. This has to be accomplished before you enter *Stalk the Market* (unless your communications program runs as a desk accessory).

1. Select **Download...** from the **File** menu (*Quick Key*: press <J> as in Dow Jones). The general DJN/R Download dialog box will appear. A lot of it pertains to the *Automatic Download* capability and serves no purpose here. For now you can ignore the **Portfolio**, **Download from DJN/R** and **Desired Data** boxes.
2. Click on the text field below **Source File** and enter the filename for your captured data (be sure to include any disk ID and path specifiers), followed by a <Return>. You may choose, in the future, to name the capture file **STOCKS.DJN** (the default filename) in which case this step can be skipped.
3. Click on the long button labeled **Process Source File**. *Stalk the Market* will then extract the stock time/price data from the capture file and add it to the appropriate Stock Information Files. New SIFs will be created, if necessary, to accommodate data for new stocks. A small dialog box will keep you abreast of the progress of this process.

NOTE: As the new data is recorded, *Stalk the Market* will be checking it against existing Valid Trend Lines and Trailing Loss Levels. If a transaction is suggested, an Alert Box will inform you of this development. Simply click on **Okay** to continue with the processing.

- 4: Prior to selecting the **Process Source File** button you may bail out of this operation by clicking on **Cancel**.

This operation only updates or creates Stock Information Files. If one of the active SISs contains data from one of these updated SIFs, you must reload the SIS to bring in the new data (saving the existing SIS will result in a loss of the new data just added to the SIF).

Automatic Downloading from DJN/R

New stock time/price data can be downloaded directly from DJN/R from within *Stalk the Market*. The procedure is extremely simple and very efficient (minimizing your connect charges). However, this feature will work properly only if you have:

- ♦ A subscription to *Dow Jones News/Retrieval* (of course). You must have your DJN/R password available for the setup operation (see below).
- ♦ Access to the *Tymnet* or *Telenet* communication service. *Stalk the Market* is prepared to respond only to these services' questions after dial-up.
- ♦ A Hayes-compatible modem. The configuration commands sent by *Stalk the Market* assume a Hayes-compatible modem is receiving them. The modem should be connected to the RS232 (serial) port on the back of your computer.

Now, assuming you have all of these, here's how you automatically download:

1. Select **Download...** from the **File** menu (*Quick Key*: press <J> as in Dow Jones). The DJN/R Download dialog box should appear (it's entitled "Stock Information File Create/Update"). If this is your first time downloading this way (or you want to change things) proceed with Steps 2 through 6. Otherwise you can immediately begin the download operation (skip ahead to Step 7).
2. **Communications Setup**: Click on **Setup**. A second dialog box will appear. Here you need to enter some information about the communication setup:
 - ♦ **Tymnet or Telenet Service**: Click on the current selection immediately to the left of the phone number to change the text to show the desired service.
 - ♦ **Phone Number**: Press <Esc> to erase the current number and type in your local number for accessing the *Tymnet* or *Telenet* communication service. Just the numerals are required, not any dashes or spaces. If you're familiar with your modem commands, you can embed special characters (e.g. to wait for a dial tone, or to delay the dialing between digits). Press <Return> when done.
 - ♦ **Password**: Click on the field to the right of this prompt (the thin vertical edit cursor should appear). Press <Esc> to move the cursor to the far left. *Carefully* type in your password. Press <Return> when done.

- ♦ **Baud Rate:** Click on the button to the right of this prompt to select the desired data transfer rate (your choices are **300**, **1200**, or **2400**; the larger the number the quicker the data transfer, but your modem may not support the faster rates). *Stalk the Market* assumes you won't pick a value your modem can't handle.
- ♦ **Dial Mode:** Click on the button to the right of this prompt to select either **Pulse** or **Tone**. All phone systems support pulse dialing; most support tone dialing, which is somewhat faster.

When you have finished selecting the proper setup for your environment, click on **Exit**. Your setup will be saved to disk for future reference. The next time you use *Stalk the Market*, this will be the default setup. Of course, you can bail out (retaining the old setup) by clicking on **Cancel**.

3. **Entering or Modifying your Portfolio:** The "portfolio" is simply a list of the stocks for which you want to download data. The little data window should be familiar to you (the **Scroll Arrows**, **Bar**, and **Box** can be used to highlight a particular stock in the list). You have several options:

- ♦ **Delete an Item:** Use the **Scroll Arrows**, **Bar**, or **Box** to highlight the stock you want deleted from the list (the center item is the "highlighted" one). Click on **Delete**. The selected item is removed from the list.
- ♦ **Add an Item:** Click on **Add**. A gap will open up in the list making the highlighted item blank and editable. Type in the desired stock abbreviation. This abbreviation must be the one recognizable by DJN/R.

You may also download one or more of the Dow Jones Averages by specifying using the following special abbreviations:

DJIN	Industrials
DJTR	Transportation
DJUT	Utilities
DJ65	65 Stocks

Only daily composites are available for Dow Jones Averages (but you may convert them to weekly and monthly composites using **Convert...**; see page 158).

Press <Return> when done. The new item will be placed in its proper position in the list (the list is always kept alphabetized) and will remain highlighted.

- ♦ **Save the Portfolio:** Click on **Save**. The current list of stock abbreviations will be saved to disk (in a file named **STOCKS.PFL**). This list will be loaded the next time you use *Stalk the Market*.

NOTE: The actual download operation uses the current list, whether it has been saved or not.

4. **Select the type of data you want downloaded:** DJN/R has available either daily data or monthly data. The default is **Daily**. You may select **Monthly** or **Both** by clicking on the button to the right of the **Desired Data** prompt.
5. **Select the number of data segments to be downloaded for each stock:** For daily data, 12 trading days are contained in each segment (DJN/R keeps the most recent 22 segments of daily data; a little over a year's worth). One segment of monthly data contains one year's worth of data (DJN/R keeps monthly data back to about 1980, depending on the stock). The most recent segments will always be downloaded. If you frequently download to keep your SIFs up to date you won't have to change this number from its default value of one. To change it, click on the right arrow to increase or the left arrow to decrease the number of segments.

6. **Select a desired filename for the downloaded data:** *Stalk the Market* downloads the data into the specified "Source File" and then processes this file. Usually there is no reason to change this filename from the default (unless you want to accumulate the captured data into different files over time). If you want to specify your own filename, click on the text field below **Source File**, press <Esc> and type in the desired filename, followed by a <Return>.
7. Finally, click on **Download!**: *Stalk the Market* will assume control of the downloading operation. The status will be displayed in the (otherwise) blank area below the **Download!** button. As each stock's data is downloaded, that stock will be highlighted in the portfolio list. When the downloading is complete, the processing of the data will begin automatically. When that's complete, the dialog box will be removed, returning you to the desktop (to let you load in your newly updated SIFs, or whatever...).
8. **Problems:** With any telecommunications, it's not always possible to predict what things might go wrong (e.g. bad signal quality, expired or bad password, wrong number, busy signal, premature disconnection, etc.). *Stalk the Market* tries to detect most of these problems and get you out gracefully. However, it's always possible that you will be left connected when *Stalk the Market* thinks it has disconnected you. If this happens, you'll have to disconnect from DJN/R (or *Tymnet* or *Telenet*) yourself by (gracefully) using the VT-52 emulator installed as a desk accessory (if you've installed it) or (not-so-gracefully) turning your modem off. Watch the prompts during the download process. They'll usually let you know if something is awry.

Automatic downloading, in spite of all the steps described above, is, if used on a semi-daily basis, remarkably easy to use. All you normally have to do is select **Download...** to bring up the dialog box and then click on **Download!**. The rest is... well... automatic. This process is also quite efficient: for example, one data segment of daily data, for four stocks (48 daily quotes; in total, 240 values) can be downloaded (at 2400 baud) in about 20 seconds of actual connect (chargeable) time.

CONVERTING DAILY DATA TO WEEKLY OR MONTHLY DATA

To accumulate time/price data over relatively long periods of time it is often desirable to examine weekly or monthly composite data. This not only "compresses" the data into an easily manageable volume, but also "hides" the shorter term fluctuations in the stock's price. While 500 daily data points can cover approximately two years, 500 monthly data points will cover over forty years! Identifying long term cyclic components may require analyzing data over a longer period than the daily data can provide.

Dow Jones News/Retrieval provides either daily or monthly data (see the previous section). *Stalk the Market* provides the means for converting daily data into composite weekly or monthly data and storing this data into a separate SIF.

NOTES: (1) A "composite" price is simply the high, low or closing price for the specified period (daily prices are also composites). The volume is the cumulative total over the whole period. The date associated with the weekly composites is the last trading day of the week (usually Friday).

- (2) Daily, weekly, and monthly SIFs are treated completely independently by *Stalk the Market*, even for the same stock. They each have their own VTLs and TLLs and their own Ledger Files. For example, a buy transaction recorded in a weekly ledger will not automatically appear in the daily SIS's ledger.

Stalk the Market performs this conversion by calculating the composites from the currently active SIS (it must contain daily data) and then adding these results to the proper Stock Information File. To examine the updated weekly or monthly SIF, you must load it into an available SIS.

1. Make sure the currently active SIS contains the desired daily data.
2. Select **Convert...** from the **File** menu. *Quick Key:* press <W>, as in **Weekly** (but used for conversions to monthly composites, too). If the active SIS does not contain daily data (or no SIS is loaded), this item will be disabled. Otherwise, the Conversion dialog box will appear.
3. By default, the conversion to weekly data is selected. If you wish to convert the current daily data to monthly data instead, click on **Monthly**.
4. To perform the conversion, click on **Proceed**. If, instead, you've changed your mind, click on **Cancel**. A small dialog box will inform you of the outcome of the conversion. If a new SIF has to be created to accommodate the composite data, this will be done automatically. When the conversion is done, the dialog box will be removed, completing this operation.

NOTE: The SIFs are stored on disk with a name identical to the stock's abbreviation. The file extension (the characters after the period) indicates whether the file contains the daily (**DAY** extension), weekly (**WK**) or monthly (**MON**) data.

MODIFYING THE DEFAULT PATH FOR DISK DATA STORAGE

By default, *Stalk the Market* looks on the same disk and folder (path) where **STALK.PRG** resides to find the **STOCKS** folder (which contains the SIFs) and the **LEDGERS** folder. You may change this default:

1. Click on **Default SIF Path...** from the **File** menu (no *Quick Key* available). A modest dialog box will appear. The editable text field in the middle contains the current path name (disk ID plus folder).
2. To change the path, click on this field, press <Esc> to erase the text and type in your desired path name. When done, press <Return>.
3. Click on **Exit** to retain this new path name, or click on **Cancel** to restore the old one. The dialog box will be removed, completing this operation.

NOTE: You can also change the path name when working with the *File Selector Box* (see *Loading a Stock Information Structure*, page 39).

The path specified will be retained for future disk operations (and will appear in this dialog box if it is subsequently accessed). It will *not* be retained for future *Stalk the Market* sessions.

CONVERTING AN SIS TO DATA INTERCHANGE FORMAT (DIF)

The Data Interchange Format (DIF) is a "standard" scheme for recording tables of data. Many programs can accept externally generated data recorded in this format. This capability of Stalk the Market permits you to export stock time/price data to other such programs.

The DIF file generated by *Stalk the Market* contains only the stock abbreviation, data type, dates, prices (highs, lows, and closings), and volumes extracted from the SIS. Other data in the SIS (such as VTLs, TLLs, tuning parameters, cyclic components, etc.) are *not* included. The data is written in "columnwise" format: each "tuple" contains five values; the date, high, low, close, and volume. Column headings are also included at the beginning of the DIF file (as the second tuple). The data itself is recorded in the following formats:

- ◆ Date: mm/dd/yy (e.g. "10/16/87").
- ◆ Prices: decimal format in scientific notation (e.g. 1.01250E1 for 10 1/8).
- ◆ Volume: same format as prices (as thousands of shares).

The DIF file is written in an ASCII format so you may look at it with your favorite word processor or print it out on your printer. *Appendix D* (page 177) provides additional information on the DIF format used by *Stalk the Market*.

1. Make sure that the active window contains the data you want converted. *Stalk the Market* does not convert directly from the Stock Information File (you must load it into an SIS first). *Only the range of the data currently displayed will be converted.*

2. Click on **To DIF...** from the **File** menu. *Quick Key:* press <2>. The DIF Creation dialog box will appear. The default filename for the DIF file will be displayed in the **Filename** field.
3. (Optional) You may change the default filename if you so desire by clicking on the existing filename, pressing <Esc> to erase it, and typing in the desired filename.
4. To begin the conversion, click on **Convert**. A growing horizontal bar will show the progress of the conversion. Instead, you may click on **Cancel** if you decide not to do the conversion. Once begun, though, the conversion cannot be aborted gracefully.

Stalk the Market does not ever require or even need files in DIF format. This capability is provided as a means for exporting SIS data for use in other programs. It is your responsibility to make sure that the receiving program can interpret the DIF file as written by *Stalk the Market*.

CONVERTING A DIF FILE INTO A STOCK INFORMATION FILE

There are, of course, many programs which can handle tables of stock time/price data (notably databases and spreadsheets). If these programs also have the ability to generate DIF files in a format compatible with Stalk the Market, you may be able to import this data into an SIF by this route.

This process is essentially the opposite of that just described for converting an SIS into a DIF file. In fact, this operation can import DIF data created by the above operation. Note, however, that the imported data is placed directly into a Stock Information File, not an SIS.

1. Click on **From DIF...** from the **File** menu. *Quick Key:* press <3>. The Conversion dialog box will appear.

2. You must first select the DIF file to be converted. Click on **Select DIF File**. The *GEM File Selector Box* will appear. The files with a DIF extension will be displayed. If your DIF file does not have a DIF extension, you will have to change the **Directory** field or type in the filename explicitly. See *Loading a Stock Information Structure* (page 39) if you need help in using this *File Selector Box*. Double click on the desired filename or click on it and then click on **OK** to select the desired DIF file. Click on **Cancel** here if you don't want to proceed with the conversion (last chance). Otherwise, the Conversion dialog box will reappear with the selected filename in the text field.
3. The conversion will begin automatically. A growing horizontal bar will show the progress of the conversion. The conversion actually proceeds in three phases:
 - ◆ The DIF is read, interpreted and converted to SIF format.
 - ◆ This data is merged with existing SIF data (if any).
 - ◆ The updated stock data is written back into the SIF.

Note that if an SIF already exists for the stock, the DIF data will be merged with the SIF. Any DIF data which duplicates existing SIF data will be ignored. Other data in the SIF (VTLs, TLLs, etc.) will be retained. To use this data import technique, you must be sure that the program, from where the data originated, creates a DIF file that *Stalk the Market* can interpret properly. *Appendix D* (page 177) provides details on what *Stalk the Market* expects.

RUNNING STALK THE MARKET FROM FLOPPY DISK(S)

ONE SINGLE-SIDED DRIVE

You can run *Stalk the Market* using only your Working Copy of the Master Disk and one single-sided floppy disk drive. With only this minimum, however, little room is available on your working copy for storage of new Stock Information Files and Ledger Files. To provide additional room, the following steps are suggested:

1. **Create a Data Disk:** Before running *Stalk the Market* the first time (or whenever you need more data storage space), format a new disk (see the *Atari ST Owner's Manual* if you need instructions) and copy all the files and folders from your Working Copy *except* **STALK.PR**G (the big one) and the appropriate resource file (**STOCKS_M.RSC** if using a monochrome monitor; **STOCKS_C.RSC** if using a color monitor; or both if you may be using either one) onto this newly formatted disk (again, see the *Atari ST Owner's Manual* if you need help copying files).
2. Use your *Stalk the Market* Working Copy to load the program (see *Getting Started* in the *Introduction*, page 11). Once the Title Dialog is displayed, remove your Working Copy from Floppy Disk Drive A and put in your Data Disk before clicking on **Buy!**.

NOTE: The commission schedules are loaded right after you click on **Buy!** so it is important that you have your data disk in the drive at this point. Otherwise, an older version (or whatever happens to be on the Working Copy) of the commission schedules will be loaded. If you do forget to insert your data disk at this time, don't panic.

When you do get around to inserting it, just select **Edit Commission Data...** from the **Quote** menu (this will reload the commission schedules off the current disk). Then just click on **Cancel** to get back to where you were.

ONE DOUBLE-SIDED DRIVE

If you created your Working Copy on a disk that is formatted as double-sided then you should have plenty of room for creating new Stock Information Files and Ledger Files (nothing special has to be done). If you need more room for data storage, simply follow the instructions above for a single-sided drive, only format your Data Disk double-sided.

TWO FLOPPY DRIVES

Of course, you can ignore your second drive and just use one of the procedures described above. Alternatively, you can use your second drive as a "Data Drive" using the following procedure:

1. Prepare a Data Disk as described above, but copy both the **STOCKS** and **LEDGERS** folders (and their contents) onto it.
2. Before running *Stalk the Market*, put your Working Copy into Drive A and your Data Disk into Drive B.
3. After starting the program, select the **Default SIF Path...** from the **File** menu and change the path to **B:\STOCKS**.

If you choose this alternative, Steps 2 and 3 must be performed every time you enter Stalk the Market.

NOTE: The Commission Data, Download Portfolio, etc. will all be maintained on your Working Copy disk. The Data Disk will contain only the Ledger Files, Stock Information Files, and any created DIF files.

RUNNING STALK THE MARKET FROM A HARD DISK

Although *Stalk the Market* can be run from a single floppy disk (single- or double-sided), the speed and capacity of a hard disk are distinct advantages. Adapting *Stalk the Market* to run from hard disk is easy. Simply transfer the contents of your *Stalk the Market* Working or Master (floppy) Disk into the desired hard disk partition. All these files and folders can also be placed, if you so desire, into a specific folder on your hard disk. You should maintain the file/folder relationships that exist on your Master Disk:

- ◆ The following files should all be in the same root directory or folder:

STALK	.PRG	STOCKS	.PFL	TELENET	.DLG
STOCKS	.CFG	STOCKS_C	.RSC	TYMNET	.DLG
STOCKS	.COM	STOCKS_M	.RSC		

- ◆ The **STOCKS** and **LEDGERS** folders should be in the same directory or folder as the above files. The **STOCKS** folder will contain the SIFs and created DIF files while the **LEDGERS** folder will contain (logically) the Ledger Files.

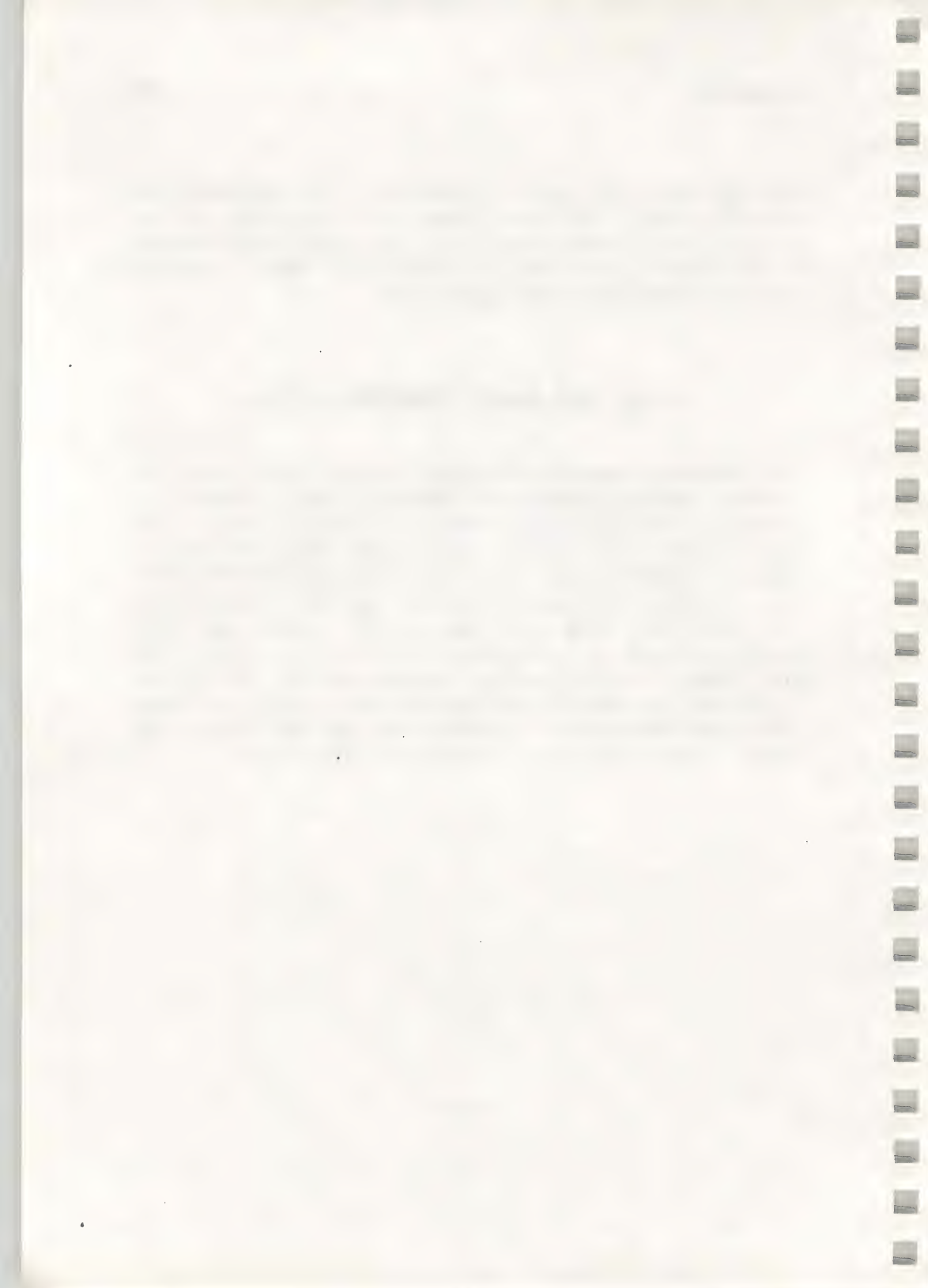
All this will be ensured if you place your Working (or Master) Disk into Drive A, click on the Floppy Disk A icon from the GEM desktop and drag the icon over the desired hard disk icon, directory window, or folder and copy the files *en totale*.

NOTE: The total file specification for any file used by *Stalk the Market* should not exceed forty (40) characters. This implies that the *Stalk the Market* files should not be placed too deeply into "nested" folders (folders within folders within folders...), or you should keep your folder names very short.

When you start up *Stalk the Market* it will determine the path it is being run from. Subsequent file access will be relative to this "base path." You may change the path name for SIF access by using the **Default SIF Path...** selection from the **File** menu (see page 160).

STALK THE MARKET RESOURCE FILES

Two separate resource files are provided with *Stalk the Market*, **STOCKS_M.RSC** and **STOCKS_C.RSC**. These files contain the data necessary for constructing the menus and dialog boxes used by *Stalk the Market*. Which of the two files is actually loaded by the program depends on whether you are using a monochrome or color monitor, respectively. The other one does not need to be copied onto your working (floppy or hard) disk but you should keep it on your Master Disk in case you change monitors. Of course, if you may be using either monitor you should copy both (*Stalk the Market* will automatically use the correct one, based on which monitor is actually connected).



APPENDICES

APPENDIX A

QUICK KEY SUMMARY

The *Quick Keys* are single keystrokes that may be used instead of the mouse to select certain menu or dialog box items, or other options.

NOTES

- (1) In the following table the *Quick Keys* are grouped by menu heading; the menu options are underlined, and the *Quick Keystrokes* are in **bold**.
- (2) Normally, *only* the key itself need be pressed (no <Shift>, <Control> or <Alternate> key is required). However, if the keystroke is prefixed by **S-** or **C-** in the table (e.g. **S-H**), the <Shift> or <Control> key, respectively, must be used.
- (3) Several special keys are used for some operations:

F1 - F10	Function Keys
Dn	<Cursor Down> Key
Up	<Cursor Up> Key
Right	<Cursor Right> Key
Left	<Cursor Left> Key
Undo	<Undo> Key

- (4) Several dialog boxes do not have *Quick Keys* assigned:

DIF to SIF conversion	Commission Schedules
SIS to DIF conversion	Fourier Analysis
Default SIF Path	Residuals

Also, if **(none)** appears in the following table, no *Quick Key* is available for that item.

QUICK KEYS**FILE MENU**

Open an SIS **O or F1**
 Data Type:
 Daily **D**
 Weekly **W**
 Monthly **M**
 Acknowledge Open:
 Okay **O**
 Cancel **Undo**
Create an SIS **N**
 See *Edit an SIS* for
 Dialog Box *Quick Keys*
Save an SIS **S**
Close an SIS **F9**
 Save **S**
 Drop **D**
 Cancel **Undo**
Clear (Save All) **F8**
Download from DJN/R **J**
 Cancel **Undo**
 Desired Data (Type) **T**
 Edit Source Filename **F**
 Process Source File **P**
 Portfolio:
 Add **A**
 Save **S**
 Delete **(none)**
 Scroll Up **Up**
 Scroll Down **Dn**
 Change # Segments:
 Increase **Rght**
 Decrease **Left**

FILE MENU (continued)

Download from DJN/R
 Download **D**
 Setup (Modem) **M**
 Baud Rate **B**
 Dial Mode **D**
 Edit Password **P**
 Tymnet/Telenet **T**
 Edit Phone Number **N**
 Exit **E**
Convert Daily to Weekly
or Monthly Data **W**
 Weekly **W**
 Monthly **M**
 Proceed **P**
 Cancel **Undo**
Convert SIS to DIF **2**
Convert DIF to SIF **3**
Print To: ... **(none)**
 Printer Port **P**
 Modem Port **M**
 Disk File **D**
 Edit Filename **F**
 Exit **E**
 Cancel **Undo**
Quit **Q or F10**

SELECT MENU

Select an SIS **A B C D**

PLOT MENU

<u>Display Full Range</u>	F
<u>Display Overrange</u>	X
<u>Modify Display</u>	
<u>Parameters</u>	M
Data Type	T
Data Color	C
Plot Grid	G
Plot Volume	V
Overlay	O
Edit Memo	M
Plot	P
Cancel	Undo
<u>Zoom</u>	Z
<u>Tile Windows</u>	T

QUOTE MENU

<u>View Single Days</u>	V
Select Buy Point	B
Select Sell Point	S
Price Selection	
Low	L
High	H
Closing	C
Other	O
Edit Other Price	P
Edit # Shares	N
Buy	B
Sell	S
Save (Exit)	E
Cancel	Undo
<u>Print Single Days</u>	P
Print Point	P
<u>Print Range of Days</u>	R
<u>Gain/Loss Calculator</u>	G

WINDOW OPERATIONS

Close Box (close SIS)	F9
Full Box (big window)	+
Scroll Up \$1	Up
Scroll Up One "Page"	C-Up
Scroll Down \$1	Dn
Scroll Down One "Page"	C-Dn
Scroll Right One SIS Point	Right
Scroll Right One "Page"	C-Right
Scroll Left One SIS Point	Left
Scroll Left One "Page"	C-Left

Scroll Buy List	
Up	S-Up
Down	S-Dn
Scroll Sell List	
Up	Up
Down	Dn
Shift Buy & Sell	
Left	Left
Right	Right
Plotted Data Range	
Full	O
Same as Window	C
Edit # Shares	N
Examine Ledger	L
Print Transaction	P
Exit	E
<u>Buy & Sell</u>	&

QUOTE MENU

(continued)

<u>Edit SIS (Create SIF)</u>	E
Stock Name (Create)	N
Data Type (Create)	T
Scroll List	
Up	Up
Down	Dn
Insert	I
Delete	(none)
Replot	P
Edit	
Date	D
High Price	H
Low Price	L
Closing Price	C
Volume	V
->SIS (->SIF)	Right
Cancel	Undo
<u>Edit Commission Data</u>	K

ANALYZE MENU

<u>Status</u>	F2
Update	U
Buy	B
Sell	S
Select VTL	V
Select TLL	T
Recalculate	
Moving Average	A
Next Day/Week/	
Month	N
Examine Ledger	L
Done	D

ANALYZE MENU

(continued)

<u>Status (continued)</u>	
Ledger	L
Scroll List	
Up	Up
Down	Dn
Print	P
Window/Whole	W
<u>Cyclic Components</u>	F2
Manual	M
Display As	D W M Y
Print List	P
Save/Exit	S E
Cancel	Undo
Rubberband	B
Fourier Analysis	F
Moving Average	A
Residuals	R
<u>Buy/Sell</u>	F4
Select New	N
Display All	D
<u>Valid Trend Lines</u>	F5
Select New	N
Display All	D
Delete Some	S
Delete All	A
<u>Trailing Loss Levels</u>	F6
<i>See Valid Trend Lines</i>	
<i>for Sub-Menu Quick</i>	
<i>Keys</i>	
<u>Simulations</u>	F7
Manual	M
<i>See Status Update</i>	
<i>for Dialog Box</i>	
<i>Quick Keys</i>	

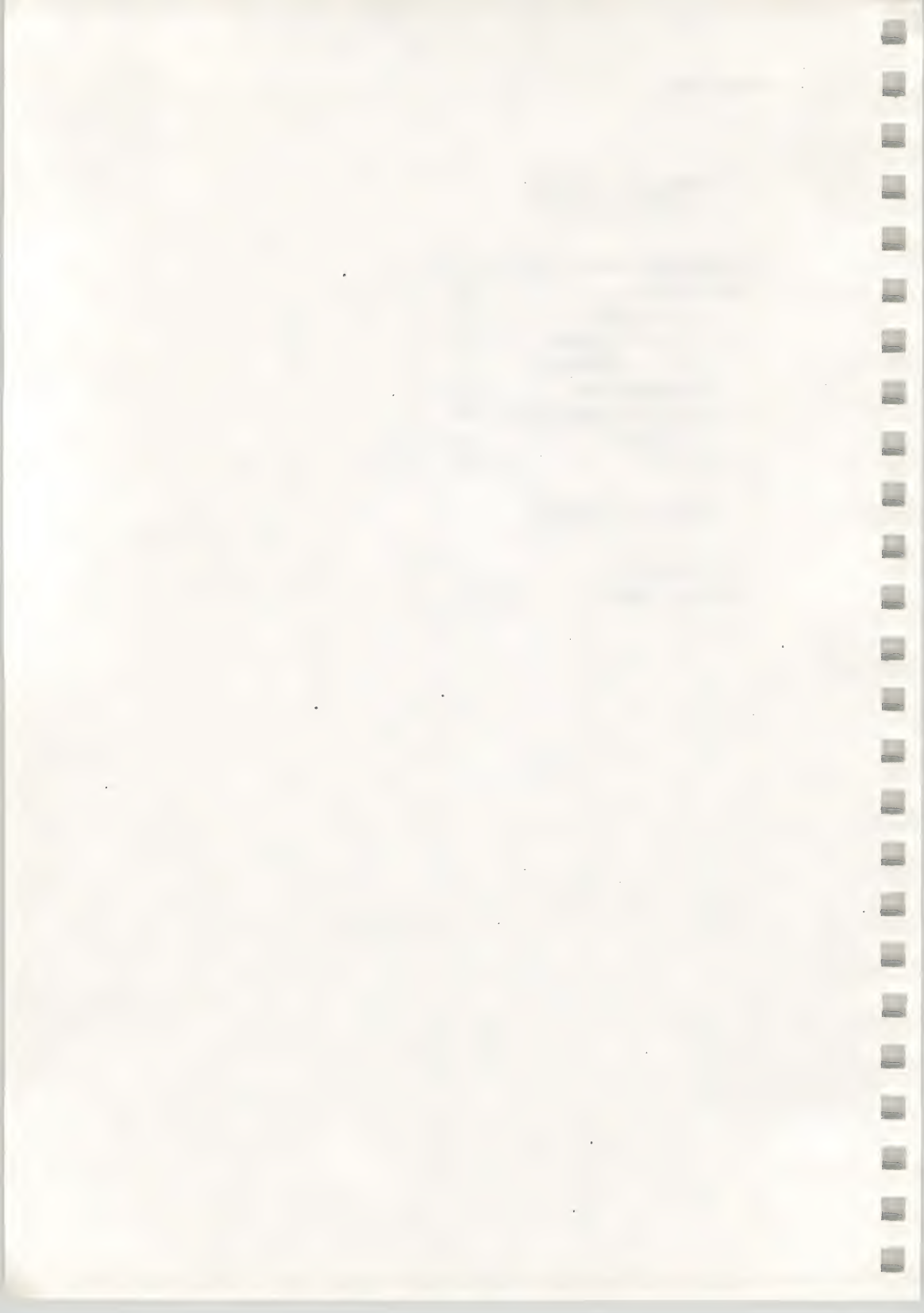
ANALYZE MENU
(continued)

Simulations (continued)

Automatic	A
Annotation	A
VTL Overlaps	V
Price Difference	P
Consecutive	C
Begin Simulation	B
Abort	A
Cancel	Undo

MISCELLANEOUS

Create <i>DEGAS</i>	
Picture File	S-H



APPENDIX B
FOR ADDITIONAL INFORMATION...

This appendix provides some sources for additional information on stock transaction timing or cyclic analysis in general. The list is by no means exhaustive; these sources were used in varying degrees for the design of *Stalk the Market*.

J. M. Hurst, ***The Profit Magic of Stock Transaction Timing***, Prentice-Hall, 1970.

This book provides a good basic (but somewhat dated) introduction to many of the tools implemented in *Stalk the Market*. As you read this book, you'll be telling yourself, "If only I had a computer program that would do this!" But now you do.

S. J. Taylor, ***Modelling Financial Time Series***, John Wiley & Sons, 1986.

This book is not for the faint of heart. It is an *advanced* text. Alternatives to cyclic analysis are presented in detail.

Trendline Daily Action Stock Charts, Standard & Poor's Corporation (25 Broadway, New York, NY 10004; Telephone: 212-208-8792).

This is a weekly publication which provides stock charts for over 700 stocks. This is very useful for identifying stocks which are likely to exhibit cyclic behavior in the future and, therefore, may be likely candidates for analysis using *Stalk the Market*. The subscription price for an individual is hefty, but your local library may subscribe to it. As supporting data for *Stalk the Market* you probably will need to have on hand only a single issue.

R. Annino and R. D. Driver, ***Scientific and Engineering Applications with Personal Computers***, John Wiley & Sons, 1986.

This text provides practical algorithms for various numerical computations (digital filtering, fast Fourier transforms, curve fitting, etc.). Computer subroutines (in various languages) for these algorithms are presented.

W. H. Press, *et al.*, ***Numerical Recipes in C: The Art of Scientific Programming***, Cambridge University Press, 1988.

This comprehensive text is similar in format to the above text. Programs of all algorithms presented are in the C programming language. The FFT implemented in *Stalk the Market* uses a variation of the algorithm presented in this text.

A. V. Oppenheim and R. W. Schaffer, ***Digital Signal Processing***, Prentice-Hall, 1975.

A comprehensive textbook covering many facets of digital data analysis in general. Stock prices are only one example of discrete (sampled) data and are not even mentioned in this text.

APPENDIX C

THE STALK THE MARKET FILE STRUCTURES

This information is provided for those who may wish to use the *Stalk the Market* files for other purposes. With this information, the programmer can write applications which access the stock time/price data, ledgers, etc. contained in these files. When tampering with these files you are, of course, entirely on your own.

THE STOCK INFORMATION FILE

<u>Item Description</u>	<u>Items</u>	<u>Data Type*</u>	<u>Byte Count</u>	<u>Total</u>
Stock Name	1	c	6	6
Protection & Plot Parameters	1	si	1	1
Reserved	1	si	1	1
Number of Days	1	i	2	2
Daily Data	500	st	12	6000
Date	1	li	4	
High Price	1	i	2	
Low Price	1	i	2	
Closing Price	1	i	2	
Volume	1	i	2	
Number of Cycles	1	i	2	2
Cyclic Components	25	f	4	100
Trading Cycle	1	f	4	4
Number of Valid Trend Lines	1	i	2	2
Valid Trend Lines	25	st	14	350
Direction	1	si	1	
Point Definition	2	st	6	
Date	1	li	4	
Price	1	i	2	
Not Used	1	si	1	

THE STOCK INFORMATION FILE (continued)

<u>Item Description</u>	<u>Items</u>	<u>Data Type*</u>	<u>Byte Count</u>	<u>Total</u>
Tuning Parameters	1	st	32	32
Minimum Fraction of Cycle	1	f	4	
Maximum Fraction of Cycle	1	f	4	
Breakthrough Tolerance	1	f	4	
Peak Definition	1	f	4	
Default Investment	1	f	4	
Number of Breakthroughs	1	i	2	
Consecutive?	1	i	2	
Number of Cycles Analyzed	1	i	2	
VTL Overlap Allowed?	1	i	2	
Extra Annotation?	1	i	2	
Determine Peak Range Once?	1	i	2	
Memo	1	c	38	38
Number of Trailing Loss Levels	1	i	2	2
Trailing Loss Levels	25	st	6	150
Date	1	li	4	
Price	1	i	2	
			Total:	6690

THE LEDGER FILE

<u>Item Description</u>	<u>Items</u>	<u>Data Type*</u>	<u>Byte Count</u>	<u>Total</u>
Number of Items in List	1	i	2	2
Size of Item (bytes)	1	i	2	2
Ledger Entry	n	st	20	20n
Date	1	li	4	
Flags (Buy, Sell, etc.)	1	i	2	
Shares Traded	1	i	2	
Share Price	1	f	4	
Commission	1	f	4	
Cash Flow	1	f	4	
			Total:	20n+4

THE COMMISSION DATA FILE: STOCKS.COM

<u>Item Description</u>	<u>Items</u>	<u>Data Type*</u>	<u>Byte Count</u>	<u>Total</u>
Selected Commission Schedule	1	i	2	2
Commission Schedule	5	i	123	620
Data (6 rows x 4 columns)	24	st	4	
Minimum/Base Commission	1	li	4	
Commission Type	1	i	2	
Schedule ID	1	i	22	
			Total:	622

THE MODEM CONFIGURATION FILE: STOCKS.CFG

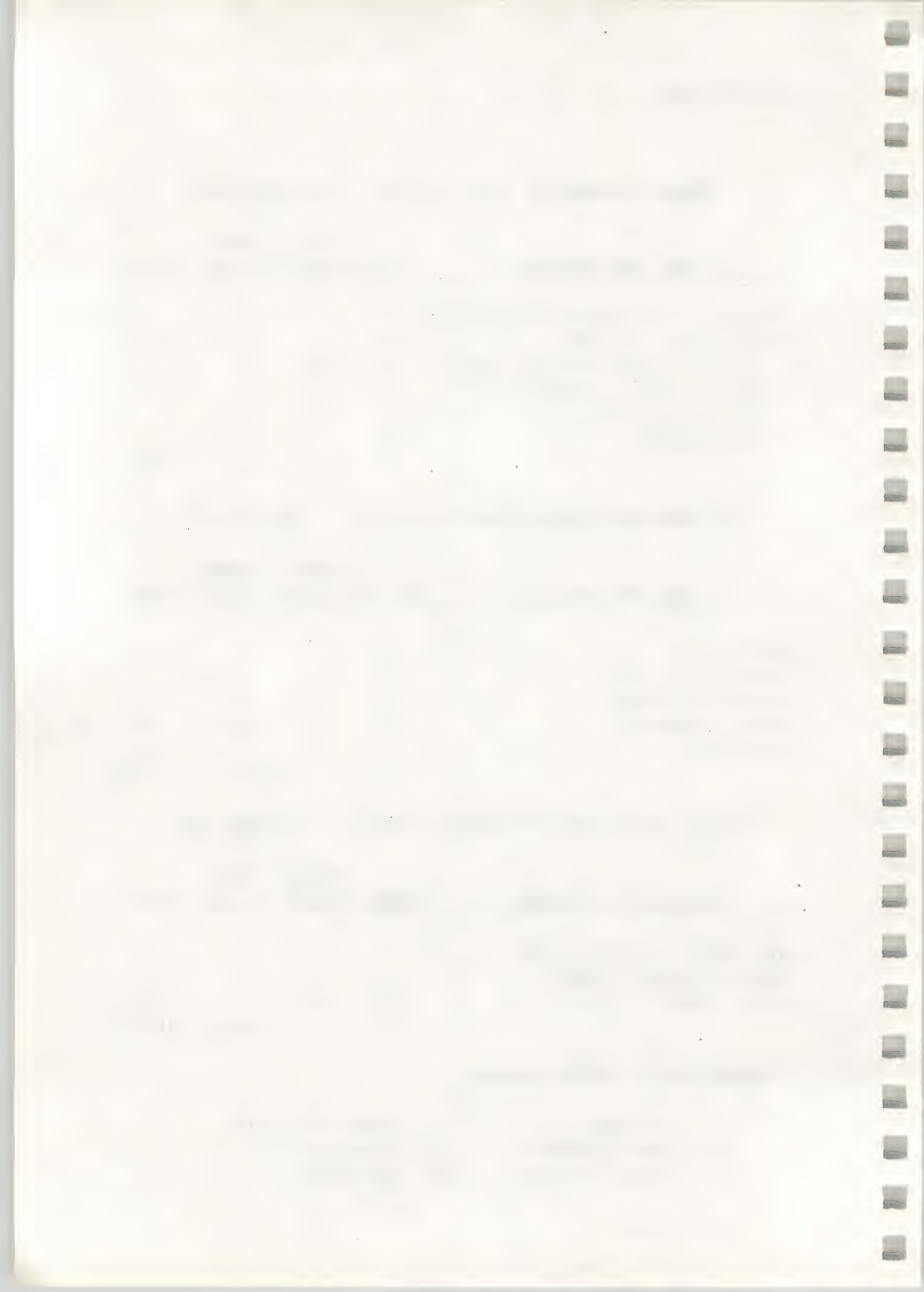
<u>Item Description</u>	<u>Items</u>	<u>Data Type*</u>	<u>Byte Count</u>	<u>Total</u>
Baud Rate	1	i	2	2
Pulse/Tone Dial	1	i	2	2
Tymnet/Telenet	1	i	2	2
Phone Number	1	c	32	32
Password	1	c	12	12
			Total:	50

THE DOWNLOAD PORTFOLIO FILE: STOCKS.PFL

<u>Item Description</u>	<u>Items</u>	<u>Data Type*</u>	<u>Byte Count</u>	<u>Total</u>
Number of Items in List	1	i	2	2
Size of Item (bytes)	1	i	2	2
Stock Abbreviation	n	c	6	6n
			Total:	6n+4

*** Data Type Abbreviations**

i	Integer	f	Floating Point
si	Short Integer	c	Character
li	Long Integer	st	Structure



APPENDIX D

THE DIF FILE FORMAT

The *Data Interchange Format* (DIF) is a specification for a "standard" organization of data. It is intended to facilitate the transfer of data between different software programs which support the format. Although it is a "standard," there are several ways a given set of data can be described while still conforming to the DIF. This appendix describes the specific organization *Stalk the Market* uses when it writes a DIF file. This is also the organization it expects to see when it reads a DIF file. *If you are importing data from other software into Stalk the Market, it is important that the DIF file is created by that software in this format.* This description assumes you are familiar with DIF terminology (if not, see *DIF Technical Specification*, Software Arts Products Corp., 1983). An example of a DIF file created by *Stalk the Market* follows this description.

The **HEADER** contains four items:

- ♦ The **TABLE header item**: This item must be present, but it won't contain any useful data.
- ♦ The **VECTOR Count**: The number of vectors (fields or columns) is always 5 corresponding to the date, high, low, and closing price, and the volume (5 values per date).
- ♦ The **TUPLE Count**: The number of tuples (records or rows) is equal to the number of dates in the table (SIS points) plus two; one for the stock abbreviation and data type and the other for the column headings.

♦ **The last header item:** This is a null item required by the DIF specification. Other optional header items are not used by *Stalk the Market*.

The subsequent data section contains all the tuples for the data set. The first tuple contains the stock abbreviation in the first vector and the data type in the second vector. The second tuple contains the column headings as string values. This tuple is always the same for DIF files created by *Stalk the Market* (see the example for the strings used).

Each subsequent tuple contains the five vectors for one date:

♦ **Date:** The date is written in character format "mm/dd/yy" (e.g. "10/16/87").

♦ **High Price:** Written as a decimal number in scientific notation (e.g. 1.27500E1).

♦ **Low Price:** Same format as the high price.

♦ **Closing Price:** Same format as the high price.

♦ **Volume:** Same format as prices (in thousands of shares).

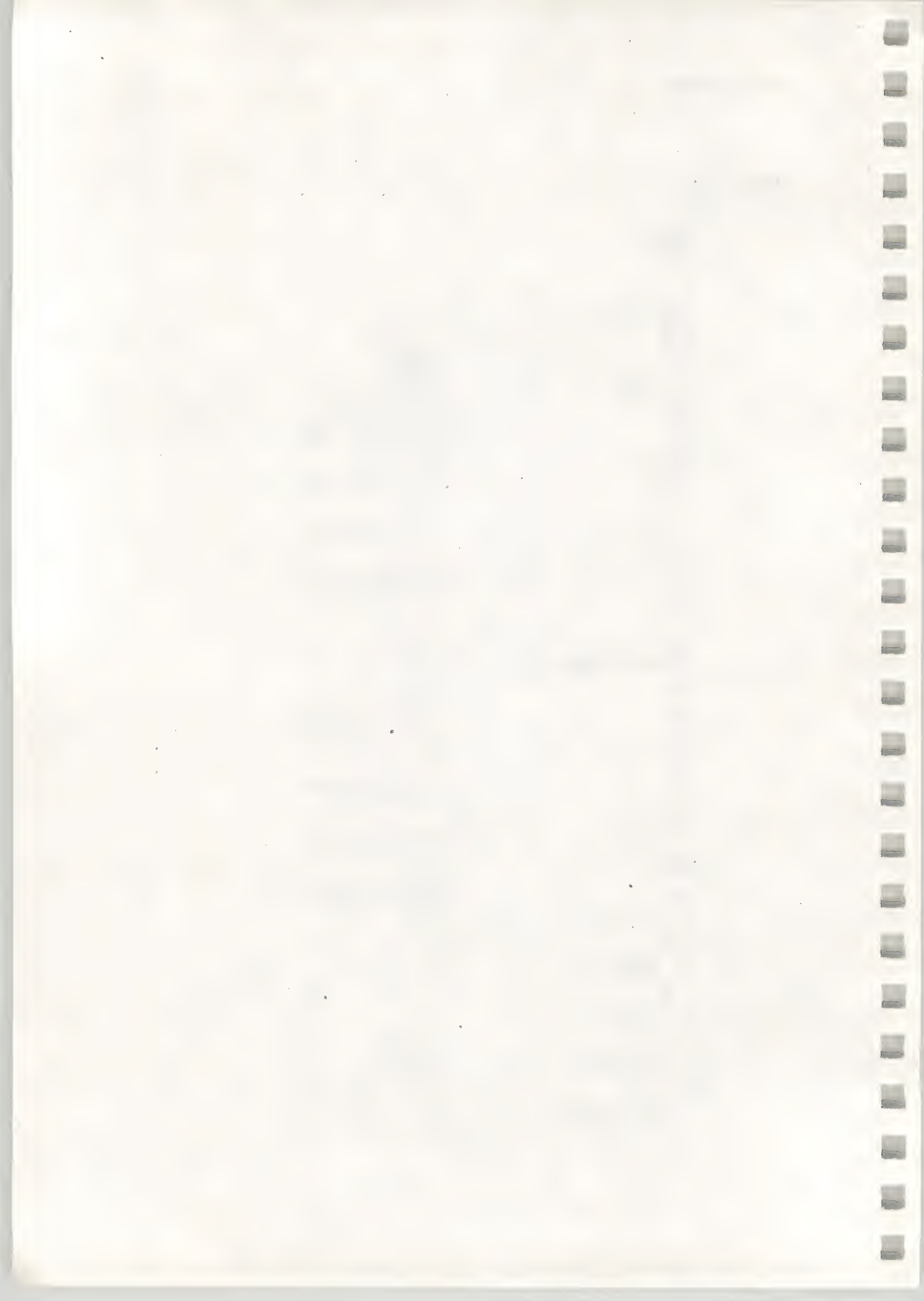
Each tuple begins with the BOT (Beginning of Tuple) *Special Data Value* as required by the format. The DIF file ends after the last tuple with a EOD (End of Data) *Special Data Value*.

EXAMPLE DIF FILE FORMAT

The following example shows the beginning and the end of a DIF file created by *Stalk the Market* which contains 315 data points (317 tuples):

(beginning of file)

TABLE	.
0,1	.
""	.
VECTORS	
0,5	-1,0
""	BOT
TUPLES	1,0
0,317	"11/07/86"
""	0,1.27500E1
DATA	V
0,0	0,1.12500E1
""	V
-1,0	0,1.75000E1
BOT	V
1,0	0,6.05000E3
"ATC"	V
1,0	-1,0
"(Daily Data)"	BOT
0,0	1,0
NA	"11/10/86"
0,0	0,1.23750E1
NA	V
0,0	0,1.18750E1
NA	V
-1,0	0,1.22500E1
BOT	V
1,0	0,2.79500E3
" DATE "	V
1,0	.
" HIGH "	.
1,0	.
" LOW "	.
1,0	-1,0
" CLOSE "	EOD
1,0	
" VOLUME "	
.	
.	
.	



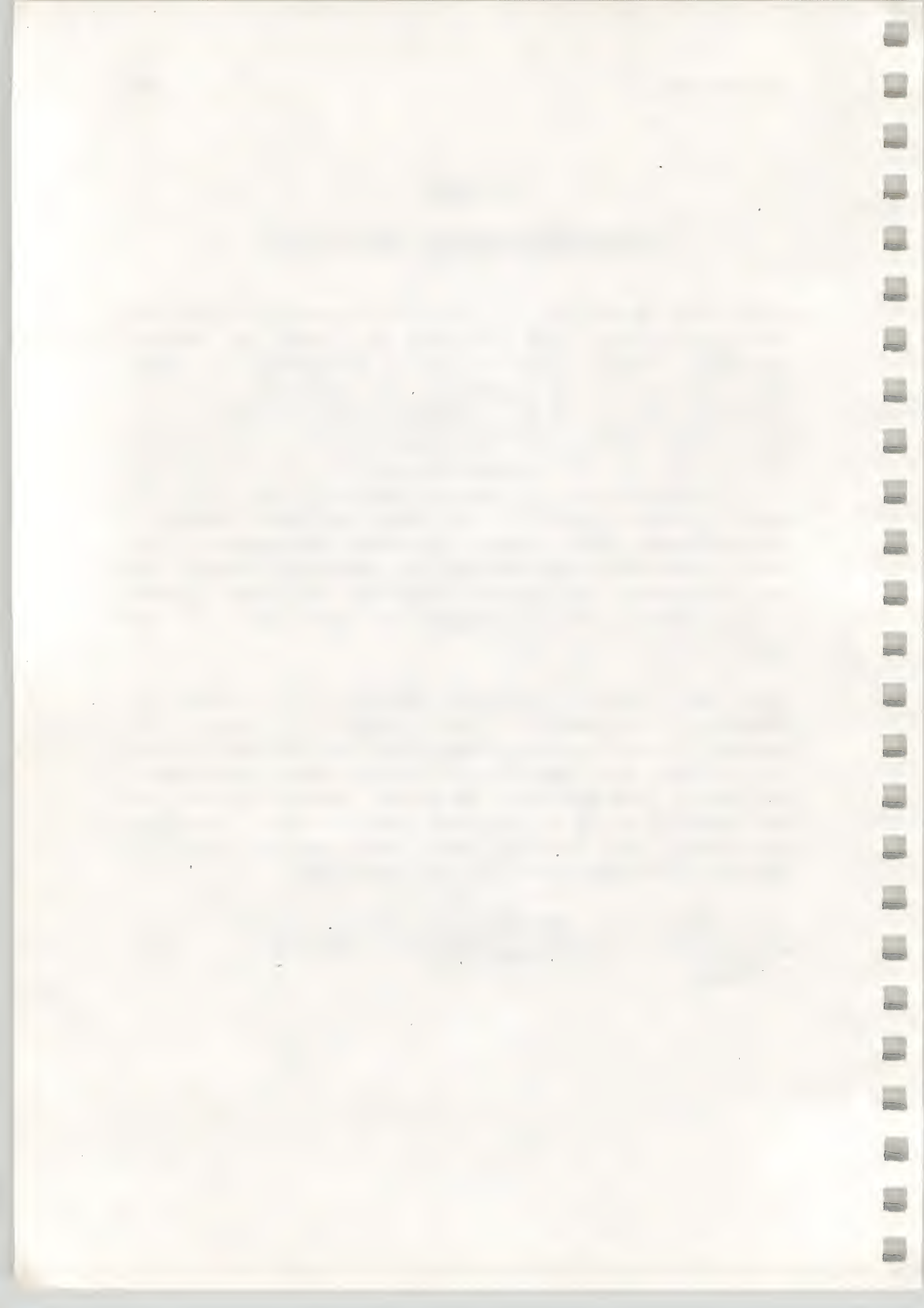
APPENDIX E

ACKNOWLEDGEMENTS AND CREDITS

Quidnunc Software is solely responsible for the development and the integrity of *Stalk the Market*. However, certain people must be recognized for their contributions. Ron Rappaport is acknowledged for suggesting the value of a software product of this type. Gary Sewell introduced the author to "C" on the Atari ST and all the "C" programming skills that the author didn't teach himself. Bill Barnes and Mark Mills provided valuable suggestions for the design or improvements of this software. The people at Megamax (particularly Pete Taliancich) were very helpful in resolving several GEM implementation questions. Their Development System Documentation was indispensable in creating a full GEM application of this type.

Stalk the Market is written entirely in "C" using the *Megamax Development System*. Megamax's *Laser C* was used for some final enhancements. The Megamax editor or *1st Word* was used for all source code development. The books *C Primer Plus* by Waite, Prata & Martin and *Programming in C* by Kochan were valuable language references. This documentation was prepared using *ST Writer* and *WordPerfect* (for the Atari ST).

Any suggestions, criticisms or other comments on this software are welcome and should be directed to Quidnunc Software.



APPENDIX F

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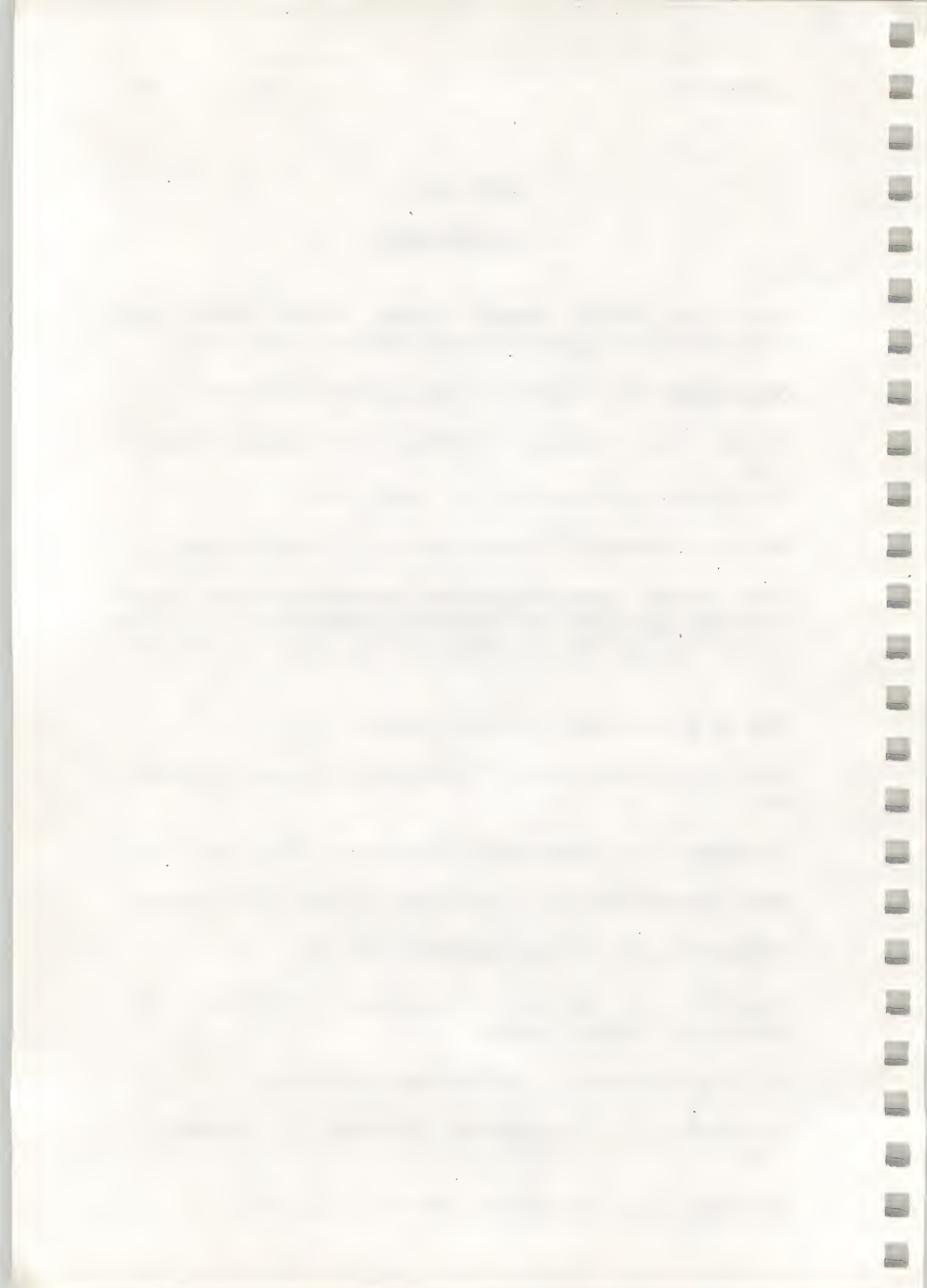
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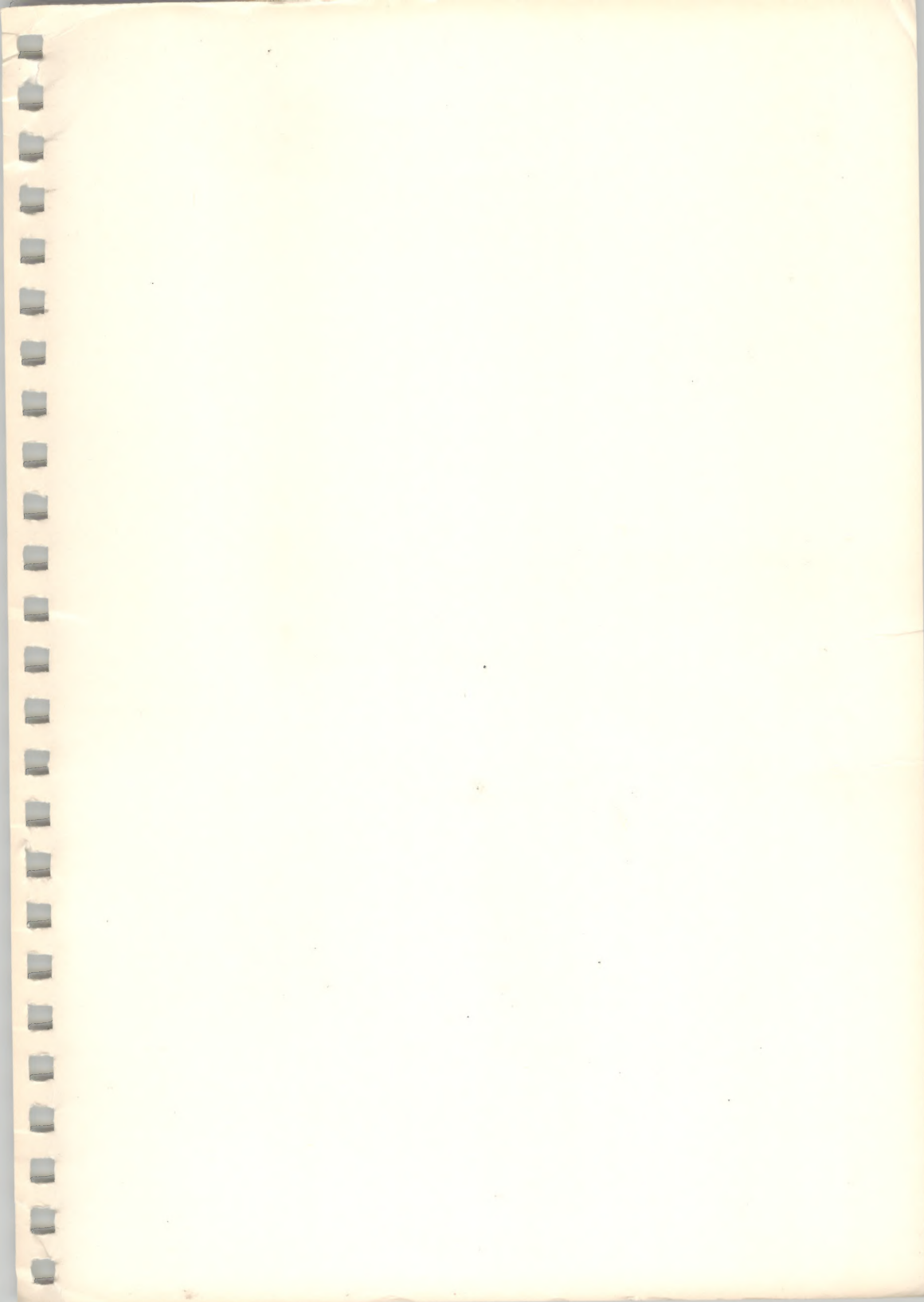
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Quidnunc Software
Suite 175
P.O. Box 819081
Dallas, Texas 75381-9081
(214) 243-0663